



**AGRICULTURAL RESEARCH INSTITUTE**  
**PUSA**







TRANSACTIONS  
OF THE  
HIGHLAND AND AGRICULTURAL  
SOCIETY OF SCOTLAND

WITH  
AN ABSTRACT OF THE PROCEEDINGS ; THE PREMIUMS OFFERED  
BY THE SOCIETY IN 1879, AND LIST OF MEMBERS.

PUBLISHED ANNUALLY.



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# TRANSACTIONS

OF

## THE HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND.

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ON THE HISTORY OF LEASES OF LANDS FROM THE  
EARLIEST TIMES.

By JOHN M'CULLOCH, Denbie Mains, Lockerbie.

[*Premium—Twenty-Five Sovereigns.*]

AMONG the first steps in the civilisation of almost every country—sometimes succeeding, sometimes contemporaneous with nomadic life—has been the recognition of property in land. Constituting—as it does at this stage—almost the only form of wealth and power, it can in this relation be traced to a very remote origin. The monarch, the state, or the commune, as each possessed the power, instead of realising directly the revenues obtainable from the cultivation of the soil, gave it out in grants to those who had rendered some service, and who in turn, either as vassals through feudal rights, or independent allodial proprietors, exercised the rights of property. They again, cultivating by native or captive slaves and stewards often slothful or unjust, found that the land gave a meagre return, and thus they began to encourage free or partially free farmers, who increased greatly in numbers as agriculture advanced.

Lord Kames maintains that free cultivators were altogether unknown on the Continent during the Middle Ages; but there is abundant evidence that leases, and consequently free farmers, existed even long before this epoch. Location under labour or serf rents, by which one portion was given for the cultivation of another portion, seems in a number of countries to have been the first form. Next to this followed the system by which the produce was allotted in specific proportions—to the landlord for the

use of the land, and to the tenant for his labour. But as agriculture still farther advanced, and the necessity of better stock and implements became apparent, a more refined location came into force—that by which the landlord delivered the stock, crop, and implements to the tenant at the beginning, and which were in like form and numbers redelivered at the end of the term. The *coloni partiarii* of Rome, the *periœcii* of Greece, the *theowes* and *soemen* of ancient Britain, the *metayer* of France, the *ryot* of Turkey, the *raiat* of India, and our more modern steelbow tenant, were all more or less likely belonging to this class of cultivator. The only succeeding form, emanating from progressive agriculture, is that with which we are best acquainted, and to which the British farmer now almost exclusively belongs.

In examining still farther into the origin of location, it becomes a necessity to view the progress of agriculture—for want of better records—through the dim medium of race and language. Dr Prichard says that the valleys of the Indus, the Nile, and the Euphrates have been the nurseries of the first great nations which have made a name in later times. The Aryan race, in its more original and undivided state, was evidently well acquainted with agriculture, and this is borne out by the observations of Niebuhr and Professor Max Müller, who both notice that all the Aryan languages—Greek and Latin included—have the more peaceful words almost alike; while those representing war, the chase, and adventure, differ in each of the dialects, and thus show that while the original stock had long led a life of peaceful prosperity, each colony after separating acquired individuality and nationality in its language, and as they advanced into new countries, new terms grew with new adventures and new generations.

As apparent from the ancient Vedic writings—1200–1400 B.C.—grain was raised and ground into meal, the ox and the cow formed the source of riches, and even then the use of iron was known. In Egypt 3000 B.C. farms were cultivated which were the property of the state, and a system of land surveying was in operation, caused by the removal or obliteration of landmarks by the overflow of the Nile. In Babylonia 2000 B.C.—as indicated by the cuneiform inscriptions—laws relating to land were tabulated, recognised, and enforced. A law tablet in the British Museum explains the right of possession as extending over lands, houses, and slaves (male and female), and a boundary stone was a title and mark of possession. An estate consisted of the house, field, and plantation or grove, and mortgage seems to have been common in practice. There is a distinct record of a land grant for services rendered to the state. The grant was from Merodach-Baladan I. to Merodach-Gum-izakir, the boundaries

are carefully given by naming the surrounding properties, and the deed is attested—as were the ancient Egyptian ones—by many witnesses. A penalty and curses were to be visited on the heads of those injuring or removing the landmark of the royal donor, and brings to remembrance a similar passage in the Sacred Writ. A series of these documents are by *savans* pronounced those of a firm of land agents (Egibi & Sons), and form a complete sequence from 605 to 486 B.C. Fields are definitely mentioned, the measurement given in cubits, and the area is given by the primitive mode commonly practised among the Jews—the amount of corn required to sow it (Lev. xxvi. 16). The price was in shekels, and the brothers took precedence of the sons—a relic of the Old Turanian law, and practised in Turkey at the present day.

From the advanced state of conveyancing, and the importance attached to land and its tenure in ancient Babylon, it might almost be inferred—although there is no direct proof—that location, in a very subordinate position to property, existed. Michaelis observes that it was not known among the Hebrews until after the captivity, and in this Hunter concurs. On the other hand, it is contended that the Song of Solomon, viii. 11, 12, shows a letting out of a vineyard; but the disproportion of two hundred for labour and management, &c., against a thousand for rent to the landlord is of itself sufficient evidence that the reward of the labour and storage alone are meant; Isa. vii. 23 is similarly expounded, while much stronger emphasis is by Selden laid on 2 Sam. ix. 10, 11, and xvi. 3, 4. But full property rather than location is meant to be the destination, and in this supposition Michaelis and Hunter unite against Selden. But all eminent jurists, and not a few commentators, agree that location is distinctly meant in the parable of the “wicked husbandman.” Wickliffe, in his translation, uses the words, “*and set ite to ferme*” to *erthe tillers*; in the Latin it is rendered “*et locavit eam agricolis*,” while in Spanish and French translations the same import is gleaned. The only dispute among the authorities seems to be whether *coloni liberi* or *coloni partiarrii* were meant—much more probably the latter. The parable of the “unjust steward” raises the dispute whether or not the contract was in writing. That there was writing is certain; but that it partook of the nature of a contract of location is very doubtful. It is pretty probable, however, that when the Hebrews were in bondage, and most likely applied to agricultural labour, that they saw improved methods, and having learnt the language, would understand something of the general practice, and in this way might acquire a knowledge of location, if it existed. Their liberation took place about 530 B.C., and as leases were shortly after well known in Greece, it is more than probable that



with the western tide of immigration, the contract of lease reached Greece through the much nearer Palestine.

The lease is likely to have been known in a less perfect state in Greece previous to 345 B.C., at which time there is recorded a tolerably perfect lease. It indicates the *coloni liberi* rather than the *coloni partiarri* was an ancient Attic lease, and is now to be seen cut in stone in the University of Leyden. It is of undoubted authenticity, and there is little in it to which a modern farmer would object; indeed, as Mr Caird says, it "indicates a considerable knowledge of agriculture." The use of the land was for cultivating vines and fruit trees. The farm was called the Phalais, situated near Mount Hymettus, and belonged to the townspeople of Æxone. The Athenian one much resembles the Attic, an example being found in Sir George Cornewall Lewis' translation of Bœckh's "Public Economy of Athens." The Piræans offered lands by advertisement cut in stone on the following conditions:—1st, the tenants for more than a certain sum are to give security for the rent, and those for a smaller sum are to provide a surety whose property shall also be liable for the rent; 2d, the lands are let duty and tax free, and if any property-tax be imposed according to the valuations, the burghers will pay it; 3d, the tenants shall not be allowed to remove wood or earth, or damage the wood on the farm; 4th, the tenants of pasture lands shall pay half the rent in the first, and the other half in the sixth month; 5th, the tenants of arable land to cultivate for the first nine years as they please, and according to custom; 6th, but in the tenth year they shall plough no more than the half of the land, so that the succeeding tenant may proceed in preparing the soil from the 16th Anthesterion, and if he plough more the produce to become the property of the burghers. One of the farms is, in accordance with clause 7, to have a house in connection.

There is little doubt that the infection of civilisation, which as it travelled westwards caught hold of Greece, had a similar effect upon Italy. The civilisation of the Etruscans, whom Dionysius described as "not resembling any people in language or in manners," points to their having emigrated from the East. The inscriptions on their tombs, though not cuneiform, have a distinct translation accorded to them by Stickel, who considers them of a purely Semitic origin; and another authority traces them to Babylonia, as the land of their fathers. They flourished in the sixth century B.C., and although they outran the neighbouring nations in their knowledge of irrigation, embankment, draining, sewage, tunnelling, and other similar practices, still it is to a much later period we have to look for any authentic notion of location—the advancement of their agriculture being merely quoted to show the continuity of the

western wave of civilisation which, among others, was destined to have such effect in improving the agriculture of European nations. It was from the fact of the Romans becoming the disciples and imitators of the Etruscans that the sudden and brilliant rise of the Empire may be traced. The lease was well known among the Romans; but not—unless the source be the one indicated—from whence it was derived.

In the earlier periods of Roman jurisprudence, land is described as being cultivated by three methods—1st, by the proprietor and slave labour; 2d, by free or partially free farmers, *partiararii*; and 3d, by the *coloni liberi*, corresponding closely with our modern farmer. When we study closely the analogy of other countries in regard to the stocking of farms, it is not clear that even the *coloni liberi* were so favourably situated as to be the owners; for Cato, one of the earliest writers on agriculture (550 B.C.), in his full and distinct details, does not mention anything tending in that direction. It is presumed—although no formula of the ancient Roman lease is extant—that it partook of the bilateral form of their other contracts. Written contracts were common before the Christian era, as Columella mentions lawsuits between lessor and lessee. Conditions, some of which were enumerated and some culled from general reference, have been given in the following arrangement:—1st, duration, generally five years; 2d, the right descending to heirs; 3d, a power to assign or sublet, if not restricted; 4th, a rent in money, produce, or services, or a combination of them; 5th, rigid culture and management stipulations; 6th, meliorations and fixtures; 7th, penal clauses, by which desertion, improper cultivation, or two years' unpaid rent, irritated the lease. During the Empire free cultivators diminished, and slaves correspondingly increased; and although leases were less common, they still existed; for, in 444, "A person is sent into Sicily to reorganise the revenues of the House of Ravenna." These were principally from land, as the sums due by the several tenants, the names of the particular farms, the kind of rent—whether money, services, or produce—are set down in an accurately-kept estate book, and show that there was then pursued a very similar management to that of our own time.

#### *Mediæval Continental Lease.*

It is difficult to say when, on a great part of the Continent, the Roman law fell into disuse, and that of the Middle Ages began to be substituted. After the fifth century the notices of land occupation are embodied in the *Leges Barbarorum* and the *Capitularia Regum Francorum*; and it is from these that modern authorities have derived any information regarding the mode of occupation, the condition of the occupier, and the

tenor and form of deeds of contract in connection. The principal cultivation seems to have been by slaves, but a portion must have been either free or partially free; for the *dominus* and the *colonus* had in certain circumstances a mutual interest in the produce, showing that, although not free from servitude, they had a status different from the *servi*. Those altogether free were termed *Arimanni*, were evidently not numerous, and differed much in wealth and position; while, with the probable exception of furnishing the stocking, they corresponded with the modern farmer. The Crown lands were let to freemen, by written documents; for by a constitution of the Emperor Frederic, it was directed the form they were to take. It is also to be inferred that the Church lands were let to freemen; for the *coloni* are enjoined to render the same to the Church as the *coloni regis*. Many other proofs can be adduced that Church lands, from their greater security and the more liberal dealings of the Churchmen, attracted the freest and best set of farmers.

In Germany it appears that freemen were often reduced to slavery, and *vice versa*, but the lands around the domain were cultivated by domestics and retainers, while the most distant possessions were tilled by slaves; in this forming a contrast to other countries which kept the slaves on the *inland* and let the *outland* to free farmers. In Italy free farmers or *coloni partiarii*, partially free, were few, and some authorities venture the statement that they had entirely disappeared. In France it appears that, in the thirteenth century, lands, vineyards, &c., were let to *ferme* for a term, at a fixed rent with security, and there was an obligation to cultivate properly and return the subject in as good condition at the end as it was at the beginning of the term. Written documents controlled the letting of Church lands especially, and Muratori mentions an important example—because one of a complete lease—dated 869, and entitled “*Charta Walperti Episcopi Mutinensis*.” This contract gives to John, a freeman, a farm to be cultivated, and partakes partly of the nature of a grant, partly of the nature of contract; for although it begins in the usual charter form, it contains contract stipulations as to residence, the purposes for which it is let, the destination to heirs, cultivation, planting, erection, and preservation of buildings and fences. It also has a defined duration, a fixed rent—partly in grain—sheep, fowls, and services, and a penalty for non-performance. The deed is written by a notary, and the lessee signs by a mark, before witnesses, and in all essentials, except the mention of its being a contract, resembles the modern lease.

#### *English Lease.*

It may be presumed that much the same system of land

tenure as had obtained on the Continent extended into Britain. Although some details were derived from the Saxons who settled on the east coasts, there is little doubt that the native Britons copied from the Roman colonists their laws and customs in regard to land. As before noticed, Germany differs in its demesne and distant estate cultivation, and the inland and outland of the Saxon are from the Roman model. It is, however, tolerably clear that the slaves, *servi* or *nativi*, predominated in numbers over the *ceorls* or freemen, afterwards called *firmaryi*, from the Saxon *feorme*. The demises noted by Madox in his *Formulare Anglicanum* (1020–1038) prove the existence of freemen with leases from Churchmen, and resembling those of the Continent. Although it is considered that the numbers of freemen were reduced by the Normans, the evidence of their existence becomes clearer after the Conquest. The slaves were divided into several classes of not well-defined difference in condition; but all may be distinguished from the free farmer as bondsmen. Some of the *villegns* could be sold,—some were *adscripti glebæ*; while it is not likely the free farmer provided ought but corporeal capital. But as feudal lords found that free farmers better served the purpose when they required to reside away from their estates, and pay more attention to court and parliament, leases became more common. Glanville speaks of expulsion for non-payment of rent; and Bracton, in his treatise of a later date (the reign of Henry III.), in treating of location in accordance with Roman law, discusses the right of the *firmaryus* to a brieve to recover possession, if he should be ejected within his term.

In the *Formulare Anglicanum* are to be found leases in Latin, French, and English, from the Conquest up to the time of Henry VIII. It is not important that these should be minutely examined; but, at the same time, a few particulars regarding the lease of the time may be noted. Churchmen here as elsewhere were leading the van in improvements, and the king and lay proprietors followed their example in granting leases. A lease of the time of Henry IV. marks by schedule the quantities, numbers, and descriptions of the steelbow goods. The schedule is in English, the first connection of the language with the contract of lease. The greater portion of early leases were *indentura* (by two or more parties), while deed-poll by one party only was also known. Coke considered forty years the limit of a lease by common law, but at this time from four to fourscore years was known as the duration. The first for eighty years, given by Madox, is in 1429. The rent was in money, produce, and in services. The covenants vary according to the nature of the subject, but clauses to preserve from waste and to repair, with forfeiture in default, were mostly inserted. The law

of England, by a very old statute, allowed the tenant to take wood for the use of the holding; and in many cases the practice still exists, but probably more by tacit consent than on account of the statute. Leases are now by the law very secure, so much so that they are granted for long terms for the purpose of mortgage and family settlement. Yearly tenure is, however, by far the most common in England as regards agriculture, and a system of compensation for meliorations in use in some districts gives them a bright contrast to those in which this security is withheld. A Norfolk lease of the end of the eighteenth century consists of over twenty clauses, one or two of which may be quoted as peculiar. Clause 5—"Nor to take any other farm, nor to purchase adjoining property, without the consent of the landlord." Clause 11—"Not to impair the foundations of the buildings by scooping out the bottom of the yard near to them, but to keep up a three-foot pathway between." The authority from whom this is taken adds in parenthesis, "an excellent clause." Clause 14—"Also, in the last year, not to suffer swine to go loose without being yoked or rung." A clause similar to this has been seen in a Scotch lease current at the present time.

#### *Ancient Scottish Lease.*

It is a common mistake to suppose that the Celtic races which inhabited Scotland prior to the Roman invasion were altogether rude and barbarous. For, apart from Cæsar informing us "that on the south and east coasts they tilled the soil, kept flocks and herds, and lived in hamlets for sake of mutual protection," their *mod*—Saxon *mote*, or court of justice—betrays considerable civilization. It is, too, not altogether unlikely, that from their Aryan origin some remembrances of rural practices may have been by tradition transmitted. But it is not intended to prove that at this time anything of the nature of location existed; it is much more probable that custom and the decision of the chief, influenced by the feelings of the majority of his people, would regulate the occupation of the land. The laws and customs were no doubt improved by the Romans, for the Scottish lease has unquestionably been formed on the Roman model. The form and tenor of the lease reached the Churchmen—who at this time were the only conveyancers—through the Lower and Middle Empires, and by them again were transmitted into Scotland. The style and clauses of the Scottish are uniform with the Roman, and in principle and conception identical. Unfortunately, however, no connected historical account has been given by Craig, Stair, or other eminent authority, and thus the Chartularies and a collection of laws by Sir John Skene are the main sources from which information relative to the lease can be obtained.

during the period from the eleventh down to the seventeenth century. During the Scoto-Saxon times, it may be inferred that a system similar to that obtaining in England and on the Continent prevailed. Craig considers that bondsmen were always rare in Scotland; but contemporaneous evidence, along with that of the Chartularies, proves that the *nativi servi* or *cumerlachs* (so called from their wail of distress) were numerous. There were also free farmers, who gave a portion of the produce as rent; and at least, shortly after, a portion who farmed under the steelbow system. The inauguration of the feudal system caused charters to become common, this form being used by the Churchmen in letting their lands for a term. Leases, after the Roman model *conventio*, were also used up to 1342, when from feudal notions all such contracts partook of the unilateral nature of a grant. In the early days of feudal vigour, agriculture—principally through the exertions of the monks—was in a state so prosperous, that several writers could mark no improvement from the death of Alexander III. till the beginning of the eighteenth century. But in the fourteenth century, internal dissensions caused such a feeling of insecurity that agriculture declined, and it was found necessary to enjoin by statute the country people to labour the ground. In the fifteenth century there was little improvement except by way of legislation, the famous statute 1449 marking an era from which the improvement in the condition of the lessee of land can be definitely traced. By this time it may be deemed that slavery had been abolished, although the tenants—undoubtedly steelbow—were little less degraded than if they had been in actual slavery. The statutes 1457, 1469, and 1491 all tended in the direction of mitigating the condition of the tenant and rendering him more secure in his possession. Leases, formerly in Latin, now began to be framed in Scotch; but still a great many bargains were made by local custom—in the Western Isles, “to wet thumbs and rap them” being the symbol of mutual obligation and a concluded bargain; while in other districts the giving and returning a “stick and some straw,” and resembling formal infeftment, seems to have been the practice, and almost leads to a conclusion that during those centuries in which agriculture was so much depressed, written contracts were even rarer than formerly. In 1548, the “Complaint of Scotland” showed that the law was little attended to, and that nothing but adversity and oppression fell to the lot of the tenant. Lord Binning’s complaint as to internal feuds among the chieftains, barons, and magistrates proved that insecurity and uncertainty still attended the possession of land. The union of the two Crowns, but in a greater degree that of the countries, and at a later date the abolition of military service, caused the urban

population to be attracted to commerce, and the rural to agriculture; and thus began that measure of prosperity which, in an almost uninterrupted and ever-increasing ratio, has continued up to the present time. The improvement in agriculture, coupled with better education, led to written leases becoming much more common about the end of the seventeenth century. Fencing seems to have been little known about this time, for an Act passed in 1686 anent the herding of wintering cattle, and whose penalties are still exigible, showed the opposite to have been the rule. In Galloway, where the exertions of improvers were rendered almost abortive by the "levellers," the building of dykes and enclosing generally began in 1724, and in Ayrshire only in 1766. Grass seeds were first sown in Haddington in 1720, liming first practised in Ayrshire in 1750, the growing of potatoes in 1740, that of turnips in Wigtownshire and the Lothians about 1747. It is thus readily seen how leases, formerly short, extended in volume. The alternate bear and oats, and the laying down to grass by allowing it "to choose its own root," needed little skill to execute and little stipulation in regard to it; but the more modern introductions and improvements gave great scope to lawyers in spinning out the clauses of the lease. As showing the insecurity attending the possession of land which prevailed so late as 1747, a contract may be mentioned, in which John and James Graham contracted with gentlemen heritors and tenants of a part of Perthshire for the protection of their stock and crop from the forays of the Highland Clans.

#### *Obsolete Customs and Conditions.*

Reference has already been made to the abolition of slavery. This change was no doubt induced by the better return obtained from free labour and the more perfect *esprit de corps* which animated the clansmen in time of war.

The services which for centuries and at a very early period formed part of the rent of the free or partially free farmers, caused them to neglect their own work, and were a serious obstacle to improvement. Mutual dependence and protection, no doubt rendered military service a necessity at one time, the "weapon-showing" proving that among agricultural tenants and labourers warfare occupied a foremost place. But carriages of fuel, labour on the demesne, and such like, were taken as part of the rent, and are now little known. Smithy or "blow" rent has, however, been seen by the writer as a condition of a lease now current in Argyle. But since the country has assumed a more peaceful and settled state, money become more plentiful, and education improved, there has been a general tendency to con-

densing these servitudes under a money rent—a result which has in general been attained.

During the early Middle Ages, the system of inland and outland prevailed over a great portion of Europe; but although still spoken of in Perthshire, it, too, has fled before civilisation. Better cultivation by free labour and the better security now existing for life and property, have led to the system of self-contained farms, which over Scotland is now almost universal.

*Kane* was an ancient condition for payment of rent which evidently had arisen for want of a better medium. It was the *can* of the Celts, meant a tax or rent; but even down to the days of Bruce the royal revenues were paid in cattle. When grain and money began to be the rent mediums, articles of small value, such as eggs, fowls, &c., formed the *kane*, and still are exacted on some estates. The idea of produce rents has been modernly developed in a manner which, being remarkably suitable to the circumstances, is not likely soon to go out of practice. The letting of cows to a dairyman for a cheese rent is very common in the dairy districts of the south and west of Scotland. The farmer supplies the cows, the feeding for both summer and winter, the dairy utensils,—in short, every requisite,—and in return receives so many stones of cheese as a produce rent. This kind of rent or *kane* is much more common than a money one, but both present a legal difficulty not very easily overcome. The farmer has by law no lien over the produce, he even cannot create one, and he has no right of hypothec; hence he protects himself against collusion and fraud by making the contract one of service, in which the wages of the dairyman or bower are formed by the surplus over a certain guaranteed quantity of produce, or sum of money, which stands in the place of the *kane*. Otherwise the farmer's cheese becomes a common asset of the dairyman.

The ancient custom of *herezeld*—for there is no trace of its ever being a condition—most likely originated in the law of the chief. At the death of a tenant the landlord could claim the best animal of any kind belonging to the heirs—corresponding with the manorial claim in England. This unjust and irregular impost fell into desuetude about the end of the seventeenth century, although it is noticed in Inverness in 1738.

The system of handing over stocking to the tenant at the beginning, to be redelivered at the end of his term, was in force when the labour was mostly performed by slaves, and has its counterpart at some period in the history of almost all civilised countries. In Scotland it lingered till the eighteenth century, and in the case of “goods” and even hill stocks is still known. For the last two centuries it has been much more common in the east of Scotland than in the south or west. It existed as late as 1750 in Roxburgh, where it was more practised on *led* farms



and was noticed in East Lothian in isolated cases as late as 1810, while in Galloway and Dumfriesshire it may be considered as having become defunct about the beginning of the eighteenth century. In the Western Isles, this system developed a class of middlemen capitalists, who having taken large tracts from the proprietor, let it out to *thirders* or *teirders* for from a third to a half of the produce. The continued improvement in the condition of the tenantry, and the now general ability to stock and work the holding, have necessarily tended to the disuse of this system.

The giving of large single payments at entry, or on renewal, called *grassum*, did not enter into the conditions of early leases; but was evidently adopted by the barons as a means of raising ready money who wished to appear in good form at Court and Parliament. It wrought much mischief, and was an especial barrier to improvement, as the tenant, with even too limited capital, eagerly endeavoured to gather the grassum by which he could secure possession at a nominal yearly rent. Insufficient means, the sloth engendered by the low rent, and the indolence of society around, produced cultivation of the worst description. But the illegality of dealing in them with heirs of entail tended in the direction of the modern annual rent.

The restriction to mills, commonly known as *thirlage*, is comparatively modern in its origin, and was also comparatively short-lived. It came into practice along with the use of machinery for grinding, and the "multures" were generally from  $\frac{1}{10}$ th to  $\frac{1}{10}$ th of the grain. The operation of this custom and condition—for it partook of the nature of both—was soon seen to be oppressive. When foreign grain began to be imported, and other grain than the home-raised oats became a general article of food, the agitation which took place resulted in an Act being passed (in the reign of George III.) by which the impost could be converted into a money payment. As soon as the landlords thus got the difficulty disposed of, it in most cases ceased to be a stipulation of the lease.

The riding or *ridden* of the marches was a duty of the landlord as well as the tenant, both being presumed to have an interest. It lingered in the northern counties to a later date than anywhere else in Scotland, and one writer mentions knowing of a man—alive in 1873—who had when a boy, in 1807, been whipped round the marches, so that he would better remember them. The enclosing even of hill land being considered imperative has put an end to a practice which nowadays seems hardly credible.

The conditions on which the *maillers* of Ross-shire occupied and improved considerable portions of the moor edges have much to recommend them. They obtained a portion free for seven years on condition of reclaiming a certain amount; and with a

shorter period of freedom from rent this method is in isolated cases pursued in the south of Scotland at the present time.

Several old leases prohibit the keeping of sheep on lowland farms, and the writer has lately seen a lease with this absurd condition. The origin was evidently for the protection of the hedges, and as cattle were then the principal stock on such land, some proprietors thought that this condition would entail no great hardship. The exclusion of this very valuable animal from the stock even of a lowland farm could not but result in an injury to agriculture.

The "Common Law" is one of the features of our jurisprudence which has been bequeathed to us after having stood the test of succeeding ages. It is in reality a digest of the laws of the clans originally derived from the Roman law and possibly mixed up, perhaps improved, by the Celts and Saxons. The general soundness of the *dicta* of the common law seems to make it unassailable.

#### *Circumstances affecting the Modern Lease.*

Any person over twenty-one years of age, and free from any legal or natural incapacity or limitation, can grant a lease. If a lessor's title were incomplete and reduced in consequence, the lessee's right would fall along with it. An heir of entail enjoys all the rights and privileges of which he has not been divested; but if he grant a lease it must—however long—be defined as to duration and be followed by possession. An heir of entail can now grant a lease of more than ordinary duration of not more than one-eighth of the estate; but the mansion-house and policies must not be included in the portion let. If it can be shown, however, that a long lease is necessary for reaping the full profits, twenty-one years—the statutory period—may be exceeded. An heir of entail can accept a renunciation of an old lease and grant a new one; but he cannot grant a new one to begin after the termination of the old, which would be good against a purchaser or singular successor, excepting only that possession had begun under the new one before the entry of the successor. Factors' acts in regard to leases are only valid through a written commission.

Almost any one can be a lessee; but a lease entered on by an insane person can be reduced by curators, heirs, or creditors, but not by the lessor. Roman Catholics, aliens, and even butchers were formerly restricted in regard to leasing, but now enjoy the same privileges as other citizens. A married woman must have the consent of her husband, and a minor can become a lessee; but if injurious, the lease can be reduced. If he have curators, their consent is needed; if not, his own execution is sufficient. An administrator cannot enter into a new contract, but can

continue an old one, if not injurious or precarious. Joint-tenants are jointly liable for all prestations, and either can insist on joint-occupation and management.

One-third arable has been considered reason for designating a farm pastoral; while another decision gives the preference to that portion from which the greatest share of the profits is derived.

The law is now more favourably interpreted for the tenant as to fixtures. Anything of an obviously temporary or easily removable nature can be removed by the tenant if it has been erected by himself, provided that no damage be done to the landlord's subject. Houses of brick or stone and mortar, if fixed to the ground, however, still become the property of the landlord at the end of the term, although they may have been erected by the tenant. It is not clear—for judges have differed in opinion—as to whether removal can take place after the tenancy has ceased; but common sense and expediency point to the right lapsing with possession.

A lease is constituted a personal right by the mutual consent of parties; the contract is the title, and on its terms depend the existence, duration, and value of the right, and for a right of this nature no specific form is requisite. Written or verbal, formal or informal, its existence, when proved, creates an obligation on the parties, and as a personal obligation is valid enough, although not possessing the requisites of real rights.

### *Effects of Statute 1449.*

This statute converted the previously only personal into real rights. The requisites, so as to make the lease effectual against all comers, are—1st, that the lease be in writing; 2d, that the subject be lands, or their adjuncts *fundo annexa*; 3d, that the lessee shall be in possession; 4th, that the lease shall have a defined duration; 5th, that there shall be a stipulated rent. The rights of widows, heirs of entail, and those possessing similar rights, are not affected by the lease, however perfect.

A verbal lease, and good for one year only, may be proved by writing, and if it be for a term of years may become valid through *rei interventus*. This legal principle may be said to bind a party—otherwise imperfectly bound and able to resile if he chose—by permitting the other party to proceed on the agreement as if it were complete and to perform acts clearly referable to and resulting from it, and which, by a refusal to proceed, would prove injurious to the party misled. While better cultivation and management will not, drainage, buildings, and such like improvements, will constitute *rei interventus*. This principle is explained at considerable length, as it has such an important bearing on the

loose bargains often entered into by the unwary. Writing—although the lease may be deficient in other requisites—makes it good against the granter and his heirs, even for perpetuity. Similarly a lease for an elusory rent, for services, or in payment of a debt, affects the heirs of the granter, but not so with a singular successor. Letters accepting a written offer have been held to constitute a valid lease; but the written offer must state rent and ish, be followed by outlay on the part of the offerer, and no new stipulation can afterwards be introduced.

Lands alone are referred to in the statute; but mills, minerals, and fishings can also be leased; while game, services, dues, tolls, ferries, and the mansion-house and grounds of entailed estates are not considered leasable, so as to affect a singular successor.

Possession is that known as natural—either by the tenant or his servant, for his behoof. Possession is viewed as “the life of a tack,” and “the sole evidence by which purchasers and creditors can determine the lessee’s right.” Without possession, the right is only personal, and does not affect a purchaser or singular successor.

In olden times leases were of every conceivable duration,—sometimes a lifetime, and sometimes with even two “nineteens” in addition; but in modern times fifteen and nineteen are the most common terms. In England yearly tenancy is most common,—seven, fourteen, and twenty-one years leases being known. The lease, however, to be effectual, must have a definite ish or termination. For perpetuity is not, while a lease for 1000 years, and thus having a definite ish, is good against a singular successor. A lease without ish is good for one year only.

The existence of a rent is necessary to secure a lessee against a purchaser or singular successor; and although low, must not be elusory. It is presumed in law that on an entailed estate, or one administered by trustees, the new rent must, if possible, exceed the old one. Rent may consist of money, services, or produce, or a combination of them. A grassum is valid against a purchaser or singular successor if the lessor has not exceeded his powers. But in the present state of legal presumption and practice, grassum is not considered good administration by an heir of entail; and if questioned, the lease would most likely be reduced. Rental rights—formerly granted to those either real or supposed descendants of the original possessors—are a species of lease altogether defunct and of no public interest.

*Examples of Old Leases.—Attic Lease, 345 B.C.—(Translated.)*

The demos of Æxone let on lease the Phalais to Autocles the son of Anteas, and to Anteas, the son of Autocles, for forty years for 152 drachmas (each drachma =  $7\frac{1}{2}$ d. of our money) a year, the said land to be farmed by them or planted with trees

as they please, the rents to be paid in the months of Hecatombæon. If they do not pay it they forfeit their security, and as much of the produce as they stand in arrear; the Æxonians not to sell or let the same land to any one else, until the forty years have elapsed. In the case of a loss on the part of the tenants by hostile invasion, no rent to be paid, but the produce of the land to be divided between the Æxonians and the tenants. The tenants are to deliver up half the land fallow, and all the trees upon the land. For the last five years the Æxonians may appoint a vinedresser. The lease to begin with respect to the corn land with Eubulus the Archon entering into office; but with respect to the wood, not before Eubulus goes out of office. The lease to be cut on stone, to be set up by the magistrates,—one copy in the temple of Hebe, the other in the Leschi; and boundary stones to be set upon the land, not less than two tripods on each side. And if a tax should be paid for the land to Government, the said tax to be paid by the Æxonians; or if paid by the tenants, to be deducted from the rent. No soil to be carried away by digging the ground, except from one part of the land to another. If any person makes a motion in contravention of this contract, or puts it to the vote, he shall be answerable to the tenants for the damage.

*Church Lease, 1429.—(Copy of Original.)*

"1429-1430. Thir indentres made att Duresme the x day of the moneth of March, the yer of our Lord MCCCXXIX, betwix a venerable fadyr in Chryste Priour of Duresme be consent of his Chapater on the to part and Thomas Atkynson and his wyfe of Bonkyll in the counte of Berwyk on the tothyr part, contenz and beryz coytness att the said Priour with the consent of his chapater, has sette and to ferme latyn to the said Thomas and to his wyfe, or to the langger leveying of them twa, all the lands of Brokoll Hernode and Denewode wyth thar reghtewyse and alde boundes, als ther charters and evidens shewys and proports, for the terme of xv yer fra Whytsonday next efter the making of ther indenturs fully to be fulfilled, to the said Thomas and to his wyfe or to the langger leveying of thayme, the warand wod and venyson all way oute taken payand yerly durand ther termes of xv yer by for sayd x marcs of usuale money of Scotland for the sayd lands to the sayd Priour or to the Priour of Coldyng-ham or to thair successors, the sayd male yerly to be payde at twa termes, that is to say Martynmes and Whitsonday by even portions: the fyrste terme of paymente begynning at the feste of Martynmes next cumyng. Also ytt is accordit at the said Prioure of Duresme and his successors sall allow to the said Thomas and to his wyfe or to the langger leveying of tham twa in commun wer betwix the remys als sall be alouyd to ther

neighbours of four halve abouth them, all fraude or gyle away putte. Also yt es accordit that the sayd Thomas and his wyfe and thair servands dwellyng wythin the sayd wode and landys, sall have reasonable esement of fewell of fallyn and dede wod for outyn waste of whk wod, whilke may serve for tymbre, durand the termes of xv yer by for sayd, by the deliverance of the Priour of Coldyngham or his officers. Also it is accordit that the sayd Thomas and his wyfe sall have tymbre for bygging of new howsys and reparelyng of tham when that it needs by reson, and also for plewes and harrowes for tylth made within the sayd land by bydyng of the Priour of Coldyngham and deliverance of his officers, gyve silk tymbre may be fun within the sayd wode ; also it is accordyt that the sayd Thomas nor his wyfe nor nane of thar servandes sall hald nor have no swyne nor gayte within the sayd woddys and landys durand the termes of xv yer befor sayd ; and gyve thai do thai sall be echetit to the Priour of Duresme and of Coldyngham and thayr successors. Also yt es accordit that the servands of the said Thomas and his wyfe dwellynd within the sayd wod and landys sall be sworne to be lele and trew to the kepyng of the sayd woddys waran and venyson for the tyme that thai dwell within the sayd wods and landys. In wytnes of whilk thing the partyes byfor said to ther indentres have sett to thair seles. Gevyn at Duresme the day and yer byforsayde.”

*Wigtownshire Lease, 1677—(Copy of Original).*

“At Stranraer the twentie-eight day of Aprill sixtyng seventie sevine yeirs it is appointed agreed and finalli endit betwixt Sir Andrew Agnew off Lochnaw, Knight Barronett, on ye ane pt. and Andrew M'Maister in Kirkland on ye other pt. In manner following to witt: The sd. Sir Andrew setts in tack and assidation letts to the sd. Andrew M'Maister his aires extors. or assgs. being of no higher degree: All and haill the twentie-shilling land of Kirkland and twentie shilling land of Aughtafie with hous biggings pts. pendicles and ptinents yroff. And that for ye haill space and yeirs underwin. To witt the fsd. lands of Kirkland for the space of fyve yeirs and the fsd. lands of Aughtafie for the space of thretteine yeirs fra Whitsonday sixvyng seventie sevine qlk. is heirby declared to be fds. lands of Kirkland and Aughtafie wh. ye ptinents, and fra thence furth to be peieable bruithed and laboured by him and his fsds. during ye<sup>1</sup> fsd. without any interruptione q'tsoever. As also the sd. Sir Andrew obleiges him to freith and relieve the sd. Andrew M'Maister and his foirnaits<sup>2</sup> of all taxationes public burdines and other impositions qdsoever due and payable furth

<sup>1</sup> Some word meaning term.

<sup>2</sup> The spelling is correct, possibly meaning successors.

of ye sds. lands of Kirkland and Aughtafie or that sall happen to be imposed yrupon. during the spaces and yeirs forsd. exceptand levie money. For the whilk cause the sd. Andrew M'Maister binds and obleiges him and his foirnaits to content and pey yeirlie to ye sd. Sir Andrew, his aires exors. or assgs. the soume of sex scoir ten merkis Scots money of silver rent out of ye sd lands of Kirkland and the soume of ane hundred and ten merkis money forsd. of silver rent out the forsd. lands of Auchtafie at twa termes in ye yeir Whitsonday and Martinmes by equal portiones Begininand ye first termes peyt. of the fds. twa silver rents at the term of Martinmes in<sup>3</sup> this instant yeir of God above wind. and so furth yeirlie and termlic during the<sup>4</sup> spaces of ye forsd. tacks. Together wh. ye soume of threttie merkis money forsd. of penalty *toties quoties* for ilk termes failing by<sup>5</sup> the said tack dewties together also with twa horses to ye peitts yeirlie one day; twa horses one day fra the killme boats at Corswall and rigs shearing one day yeirlie in harvest; with ane wedder and lamb and ane dossand of chickens all which work services and pressands is to be peyit yeirlie owt of the fds. lands of Aughtafie with services and pressands used and wont out of ye forsd. lands of Kirkland. And the sd. Sir Andrew is to give to the sd. Andrew M'Maister with the fsd. lands of Aughtafie ane meir a staig and ane ox at Witsonday nextocum with threttie thrave of straw and sex bolls of aitts at Martenmes nextocum. And ye same meir staig and ox to be pryed at ye delyverie; and the soumes that they sall be pryed to conform to ane particular apprysing to be given by ye prysers in wryte together with the forsd. threttie thrave of straw and sex bolls of aitts. The said Andrew M'Maister binds and obleiges him and his foirnaits to pey and redelyver the same to the sd Sir Andrew and his fornaitis at ye expiratione of the yeirs of the sd tack of the lands of Kirkland. And ffarder the sd Andrew M'Maister him and his forsd. to leive the fds. lands of Kirkland and Aughtafie with housses biggings and ptinents. yroff void and redd at ye ish of ye yeirs of the fds. tacks<sup>6</sup> forsd. except the use of ye barnes and yeards for covering of his crops iff the sd. Sir Andrew sall find whowt prejudice of himself or any other that sall enter yrto in his name. Other wayes the sd. Andrew M'Maister to have no use of the same. And for the mair securitie baith pties are content and consent that the sd<sup>7</sup> be<sup>8</sup> and regratt. in the buiks of Counsell or Sessione—or any other buiks competent wdin this kingdom quhairthrow all<sup>9</sup> may pay heirupon on sex

<sup>3</sup> Not easily interpreted.<sup>4</sup> Meant for remaining.<sup>5</sup> Cannot be made out.<sup>6</sup> Same word as <sup>4</sup>.<sup>7</sup> Evidently meant for or representing "presents."<sup>8</sup> Some word connected with preservation and registration.<sup>9</sup> Two unknown words.

days charge and constitutes thair<sup>10</sup> &c. In  
 witness yroff writtnd. by Alexr. Paterson, writer in Stranraer.  
 Baith pties have subs. the said<sup>11</sup> day yeir and place forsd.  
 before these witnesses—viz. Hew Cathcart son to ye Laird of  
 Cairltoun; James Kennedy<sup>12</sup> and the said Alexr  
 Paterson.

“Andrew Agnew.<sup>13</sup>”

“A. Paterson, *witness*.”

“Hew Cathcart, *witness*.”

“James Kennedy, *witness*.”

*Forfarshire Lease, 1696.*

“I David Lyndesay of Edzell binds and oblidges me my airs  
 exrs. and successors of q'homever, that John Low and James  
 Low, in Mickl Tullo, shall peaceablie possess and bruick their  
 possession ther, for the space of five years next to com, they  
 alwayes paying ther yearlie duties mys as formerlie used and  
 wonted; in witt, I have subscribed this my obligation at Edzell  
 the sixt of Junn j.m.vi° nyntie six years.—D. Lyndesay.”

“Notta that within ther taks jlk on of them are to pay a  
 wedder sheep.”<sup>14</sup>

*Suggested Alteration in Lease Clauses and the Law affecting them.*

In the year following the last example, Dallas published his  
 “Styles,” and although they formed the groundwork of modern  
 practice, yet it is readily seen that, especially regarding the  
 many improvements and introductions which followed, they  
 are necessarily incomplete. The limits of this report will not  
 allow an analysis of all the usual clauses of the modern lease, or  
 a lengthened reference to those restrictions which are found in  
 an increasing proportion of them. The prohibition of the tenant  
 from keeping a dog or gun, the forcing him to put away a  
 servant even without reason being assigned, the power to resume  
 cottages on demand, the irritation of the lease for non-residence,  
 shooting wild-fowl, or the slightest deviation from a prescribed  
 rotation, and many of similar import, are well known to the  
 writer, and require little comment. One thing, however, must  
 be said, that in the willing signature of such oppressive and

<sup>10</sup> Word differing, however, from 7.

<sup>11</sup> Same word as <sup>10</sup>.

<sup>12</sup> Evidently the profession or residence, but not able to be deciphered.

<sup>13</sup> Five short words following the signature of Sir Andrew, in which the *mōn* (French) is distinct.

Considerable time and labour have by the agent of the present owner (Sir A. Agnew) and the writer been spent on the interpretation; as, although the writing is well executed, the form of the letters and the contractions are very different from those now in use.

<sup>14</sup> Extracted from “Highland Society's Transactions,” 4th series, vol. v. p. 298.



restrictive conditions, the tenant is as much to blame as the landlord; for the contract is not—or at all events, should not be—unilateral. But the progress of agriculture in more enlightened times seems to demand lease-clauses leading to farther improvement, rather than those retrograde ones to which reference has been made; and in that direction notice will be taken of some clauses which either in themselves or through the law which regulates them are highly prejudicial.

The clause of destination requires scrupulous examination; for a tenant for a term not exceeding twenty-one years, even although assignees and sub-tenants be not excluded, cannot assign his interest in the lease. He cannot, even by will, alter the destination from the heir-at-law without the landlord's consent. As anything which lessens the tenant's interest in the holding necessarily reduces its value to him, so a lease which gives the power to assign and sublet will be more valuable than one in which such a privilege is withheld. It is not even clear that with this privilege the landlord's interest could more than ordinarily suffer, for the assignee is likely to be drawn from the same class, and he certainly will be bound by the same conditions as the assigner. Perhaps the greatest security of all would be that the success of the assignee runs parallel with the interests of the landlord, in addition to which the assigner would in most cases, as much as the landlord, be interested in the assignee being an eligible tenant. But rather than that this privilege should not be conceded by law, and the exclusion of assignees and sub-tenants withdrawn from the conditions of lease, the assigner should become bound with his assignee. Trustees for behoof of the tenant or *bona fide* creditors should also participate in the benefits of assignation; for misfortune may come upon any one, and if friends or relations interpose for the purpose of extricating the sufferer it is not easy to perceive that the landlord would be anything the worse of such an arrangement.

Game has perhaps more than anything else caused ill-feeling and litigation between landlord and tenant, and as yet no adequate remedy has been afforded by legislation. The Game Bill of 1877 is bad in principle, for it first allows the damage to be done, and a claim for compensation is almost certain to cause annoyance, repeated litigation, and in the end insufficient remuneration. Mutual rights to the game seem the only satisfactory settlement, and as regards its working, the writer is assured by a landlord of considerable experience that the discharge of his gamekeepers, and trusting his tenants instead, resulted in as good sport and the cementing of better relations between them. It is not generally known that in Scotland the right to game—apart from agreement altogether—is inherent in the proprietor, and consequently does not require to be reserved.

Treatise after treatise has lately been published, in which the subject of compensation for meliorations has been fully discussed. The gist of them seems to be the recognition of the rent as an offset to the use of the land, and the duty of the tenant being fulfilled if he returned the land in the condition in which it was at the beginning of his term. But as the law stands, increased value added by the tenant falls at the end of the term, not to him, but to the landlord. Cases, and not solitary ones, can be quoted in which the letting, and correspondingly the selling, value has been by the exertions of the tenant increased by 100 per cent. But while the tenant—perhaps an over-sanguine improver—had got no richer, possibly even poorer, the landlord without outlay or trouble reaps the benefit. Compensation being discounted in the rent market, the danger of the improvement being twice paid for, rents lower than market rate,—the arguments adduced against compensation, and some of which are inconsistent with fact,—are no reasons for withholding from a tenant the just reward of the greater industry and skill he has displayed or the greater outlay of capital he has risked. Meliorations, deterioration, and dilapidation should at the end of every term form the subject of an arbitration, and the balance struck be paid as it indicates to either landlord or tenant. But during the currency the landlord should have a power to compel an arbitration as to the state of the holding. Houses and fences should by the landlord be put at the beginning of a lease in a much better state than can be expected to result from the liabilities of the outgoing tenant which are usually assigned to the incoming one. As regards agreement for compensation, it is not generally known that in the present state of the law it could not at the end of a lease be recovered from a purchaser or singular successor.

The greater freedom necessary in the way of rotations of cropping is now admitted—nay, enjoined—by the most eminent authorities in agriculture, and along with them the writer is convinced that the interest of the tenant will keep him from scourging the land. And there is no better mode of dealing with the subject than leaving it to be dealt with by arbitration as in meliorations and deterioration. A schedule restricting the acreage of known crops should be attached to the lease, and those unknown at the time could be dealt with by the arbiters at the end. And even though the acreage were restricted, good policy would allow the tenant to enlarge the area, as he would still have to face the arbiters if the crops tended to deterioration. In short, arbitration in anything beneficial or prejudicial to the holding should draw the line.

It is needless to observe that arbitration should be provided for in every lease, so that any difficulty arising, but more especially

meliorations, deterioration and dilapidation, fixtures, &c., should come within its domain, and by a fair and amicable adjustment render litigation unnecessary. In an ordinary reference arbiters must be named to be legal, but where the reference is only a clause of an agreement or deed involving other matters, it is safe enough to leave the nomination of the arbiters to the time the arbitration is to take place.

Warning should be altogether dispensed with, and nothing but a written agreement for a new term be sufficient answer to an ejectment at the end of the term.

If the law of hypothec were abolished, it is the opinion of the writer that the landlord would not have sufficient protection from the Act of Sederunt. Irritancy through six months unpaid rent after it became due, or failing to find security within the same time, would be a fair substitute and could not adversely affect third parties.

### *The Tenure and Transfer of Land.*

Having previously and at considerable length adverted to the relations of landlord and tenant, it only remains to refer shortly to the systems under which land is by the proprietor held and transferred. The origin of the feudal system has been a matter of dispute among the authorities. Some say that it is of Roman origin, and others—with whom the writer agrees—that it was derived from the barbarians of Northern Europe. Considerable strength is lent to the latter theory when it is noticed that the only allodial property in Scotland is the Orkney and Shetland islands, and derived from the Norwegians and Danes who settled there in the ninth century. Besides, there is nothing to justify a supposition even, that the feudal system existed among the Romans previous to the irruption of the northern tribes. Among them property was allodial, and no distinction made between real and personal, movable and immovable property. But perhaps the best way to dispose of the difficulty is to quote the beautiful simile of Montesquieu in reference to the feudal system. He compares it to a mighty oak, “whose tall head and majestic boughs are alone seen in the distance; on approaching nearer, we behold its mighty trunk; but even then its roots remain invisible, hidden in the bosom of the earth, and it is only by digging deep into its dark recesses that the course and origin of these can be discovered and explored.” There is, however, no doubt but that the feudal system obtained as strong a footing in Scotland as in any other country in Europe, and while it perished as a social institution with the abolition of military service in 1747, it still exists as a powerful legal one, and to its abuses and defects reference will now be made. The feudal system gives a right of property in the same subject to both superior and vassal. It may

be said that both are dependent on, and independent of, each other, for the superior after he grants to the vassal still retains his right; while the vassal, if he gives his fee to the overlord, can exercise independent right of property, although obliged to acknowledge the right of the superior. But the vassal, according to the exponents of the system, can grant to new sub-vassals, and theoretically this can go on *ad infinitum*.

While modern society condemns the system by which in France land is compulsorily parcelled out to the different members of the family to the great detriment of agriculture, there is a growing anxiety for property being made allodial. Although allodial, no well-governed country would allow the use of the land to be to the prejudice of the State, and this is all the superiority required for proper administration.

Among the early heathen nations property in land was held independent of a written title and by occupation only. A new owner was put in possession by some symbol, such as the delivery of earth and stone to represent land, a wand to represent wood, and grass and corn to represent tithes,—a practice similar to the formal infeftment which is still practised, but rendered unnecessary by an Act passed in 1845. In the earlier period of Jewish history, “concerning the redeeming and changing of [land], a man plucked off his shoe, and gave it to his neighbour, and this was a testimony in Israel” (Ruth iv. 7). At a later period a very distinct account is given of a Jewish conveyance in Jer. xxxii. 9–12, writing, subscribing, witnessing, sealing, and recording being practised. The deeds of the Romans were very simple from the nature of their tenure, and with the exception of those who profit by the complex nature of our conveying—caused partly by the feudal system—the general idea is that a change in this direction is needed. There is little doubt that within a very limited period this public opinion will be given effect to, and with a perfect system of registration such as now prevails the transfer of land and houses will be as simple, as speedy, and as inexpensive as that of stocks and shares. The result would be a national advantage, in which, more than any other class, the owners of real property would share.

ON THE *PICEA NOBILIS*, AND ITS VALUE FOR PLANTING  
IN SCOTLAND.

By ROBERT HUTCHISON of Carlowrie, Kirkliston.

[*Premium—The Medium Gold Medal.*]*Picea nobilis*, Loudon, the Noble Silver Fir.Synonyms—*Pinus nobilis*, Douglas ; *Abies nobilis*, Lindley.*Leaves*.—One and three-quarter inches long, solitary, crowded, compressed, irregularly two-rowed, linear, falcate, mostly acute, flat, deep-green above, and glaucous beneath.*Branches*.—Horizontal, spreading, and numerous.*Cones*.—Solitary, on the upper parts of the top branches, cylindrical, sessile, thick, and rather obtuse, from 6 to 7 inches in length, and from 8 to 9 in circumference, with large, incurved, stipulate, and entire scales.*Bractees*.—Large, projecting, reflexed, imbricated, spatulate, with terminal, awl-shaped points.*Seeds*.—Oblong, small, with a coriaceous testa, and broad, pale-coloured wings,  $1\frac{1}{2}$  inch in length, and  $\frac{3}{8}$  of an inch broad at the widest part.

A magnificent tree, attaining 200 feet in height, and forming vast forests of imposing grandeur in its native habitats on the mountain ranges of Northern California, and along the banks of the Columbia River, where Jeffrey found it 200 feet high, and 4 feet in diameter, at an altitude of 6000 to 8000 feet, in red loamy soil. It is called by the Indians "*Tuc-tuc*" (which means literally "the big tree"), in allusion to its immense size.

THIS conifer, so appropriately designated the Noble Silver Fir, was first introduced into this country in 1831. It was discovered by Douglas, and in the many stately specimens which are now beginning to arrest the attention of arboriculturists in Britain, and in the rapidly extending area of its plantation, we find a fitting testimonial to the memory of its lamented discoverer, and an additional proof, if necessary, of the obligations under which all interested in tree culture feel they are laid to his untiring zeal and sagacity. In its native habitats in a country so fertile in magnificent large trees,—of whose gigantic proportions we can form a very inadequate conception in this country,—it is said to form a most imposing sight, not only because of its immense height and bulk, but also on account of its symmetrical habit even when old, its deep, rich-green foliage, and remarkably large and erect cones, and its beautiful cinnamon-coloured bark. Altogether, the *Picea nobilis*,—whether in its own country or in Britain, and whether as a small specimen or as a tall forest tree,—is doubtless one of the most striking and majestic species of the coniferous order. Douglas himself writes of it on 11th October 1830, in sending home the first seeds to enrich the sylvia of his native country, from the entrance to the river Columbia :—"This singular species is a majestic tree forming vast forests

on the mountains of Northern California, and produces timber of an excellent quality. I spent three weeks in a forest composed of this tree, and day by day could not cease to admire it." Another eminent arboriculturist, Jeffrey, who found it on the Shasta Mountains, at an altitude of from 6000 to 8000 feet above sea-level, thus eloquently describes the impression it made upon him:—"Its ivy-coloured, dark shining green leaves, with horizontal outspreading branches, each tier forming complete platforms round the tree, with a surface almost as level as Utrecht velvet, never fails to put the stranger into a state of amazement to contemplate such a wonderful arrangement of beauty, elegance, and perfection."

Unfortunately, the sad fate which found for its discoverer a lonely grave far from his native Scotland, in one of the islands of the distant Pacific, so soon after the despatch of this first batch of seeds of the *P. nobilis*, prevented its increase in anything like quantity for a time in this country; for while no further shipments could be obtained from the same quarter, it was some time before the merits of the seedlings of the first importation were sufficiently apparent to lead to an anxious and general desire for the extended introduction and wider propagation of the *P. nobilis* in Britain.

The high prices consequently charged at first for young plants of the *P. nobilis* in this country after its introduction, naturally deterred many planters from adopting it as extensively as they would otherwise have done, considering the encomiums with which its advent had been heralded; but these prohibitory prices also led to numerous ingenious devices being adopted—by grafting and striking from cuttings—for the propagation of the species; and although in cases of scarce and rare species, such means of increasing their numbers may be excusable, they are hardly to be commended in practice for the raising of trees intended for timber-producing purposes;—indeed, for extensive planting, so artificial a mode of propagation could never come into general use;—and many of the larger specimens throughout this country at the present day, when compared with younger plants of seedling growth, will prove, by their relative inferiority that the *P. nobilis* is no exception to the rule that the natural origin from the cone or seed is the only legitimate means for raising really reliable forest timber-trees for prospective sturdiness of habit, and future value and development. Some cultivators have certainly been very successful in rearing many varieties of the coniferous family from cuttings and grafts, and also by budding them upon stocks of other species of closely allied affinity; but, upon the whole, these modes of propagation are to be avoided, and preference given to the natural germination from the seed, for, unless very dexterously and scientifically performed, the artificially propagated

specimen almost invariably produces an awkward side-growing leader, or, in other cases, the union between stock and scion proves a material detriment to the symmetrical development of bole in after growth. This is especially the case with thousands of specimens of the *P. nobilis*, reared from grafts during the earlier years of its introduction to Britain. The grafts having been taken very promiscuously from branches, and from *lateral* but not *terminal* shoots, proved for years most disappointing. The grafted plants grew in the most fantastic form, sideways, and the whole habit assumed was that of a branch growing out of the ground, rather than that of a healthy, upright young tree. No careful pinching or rubbing out of the offending laterally-inclined buds will suffice to check this tendency and insure a terminal leading shoot of erect growth; the planter is brought face to face with the stern truth, so well enunciated in the old line—“*Naturam expellat furcâ, tamen usque recurret* ;”—and only after years of growth lost, and much laborious watching and care, does the young *P. nobilis* indicate submission to the incessant application of the pruning-knife. The peculiarly distinct character of the *P. nobilis* increases this awkward habit in grafted young plants; for in its normal condition of growth, the leaves have the appearance of being placed only on one side of the branch, each leaf curving upwards, while the branches are remarkable for the density of their foliage, and their perfectly flat surface, spreading out horizontally from the trunk; consequently, in specimens grown from lateral shoots or grafts, or from cuttings, this horizontal and lateral habit exists in an increased and strongly-marked degree during their earlier years, which very much retards their progress. Another difficulty in obtaining early seedlings of this conifer arose not only from the fact that, in common with the silver fir (*Picea pectinata*), which it closely resembles, there is the liability to produce successive crops of unfruitful cones, so that probably only once in a few years they are fertile; but like most of the coniferous family, the *P. nobilis* is also very liable to have its cones infested by a destructive insect. From this cause many of the earlier imported cones failed. This pest is the hymenopterous insect “*Megastigmus pini*,” and its *modus operandi* is to pierce the cones, and deposit its eggs in the seeds, seldom failing to miss a single seed. This is much to be regretted, for it is not only a reason why there has been a scarcity of seedlings since the first introduction, but also because the evil is likely to recur from time to time, when seasons favourable to the development of the little marauder come round; and this liability to destruction becomes the more serious when we revert to the characteristic of the *Picea* tribe, already referred to, that only about one year in three proves to be a good seeding year for this species. It is curious to note that this peculiarity holds good also in India and

in other countries and climates, particularly in regard to the *Picea* family, though it also holds true of the other conifers more or less. In the North-Western Provinces of India and the Himalayas, Colonel Pearson observed this very distinctly—particularly with the *C. Deodar*, silver fir, spruce, cheel, and pencil cedar. Writing to the author, under date 27th January 1870, he says:—“I can send any quantity of seed (particularly *Deodar*) if it is a good season, but occasionally the cones *all fail*, and not a pound is obtainable. Indeed, about *one year in three* is said to be a good seed year for the conifers here;”—a singular coincidence this between the habits of the coniferous family under such different circumstances of growth.

The appearance of the *P. nobilis* when young and in full vigour of growth is most striking. The shoots present, at first, tints of the palest and most delicate pea-green, afterwards blending into a deep emerald shade, and when older assuming a rich deep dark-green colour; while the branches being set at right angles to the trunk of the tree, and the leaves being more curved on the younger branches than on the older ones, the various shades are seen to great perfection; and this, coupled with the ashy-grey colour of the bark of the young twigs, and the cinnamon-coloured hues of the trunk, combines to render the tree an object of striking interest even to the most untutored eye. Some trees present more than others the peculiar *glaucous* colour of foliage, and so much has this been observed in some specimens in this country, that it is now supposed by some cultivators to be indicative of a different and distinct type or variety, which is by some nurserymen sold as “*Picea nobilis glauca*.” Closer inspection, however, will not bear out this theory. Constitutional peculiarities, variations of site, soil, exposure, and other circumstances may and do frequently induce in individual trees of all descriptions appearances of difference, which often lead to such a belief; but in the case of the *P. nobilis* the *non-staying* characteristic of this apparently distinctive variety, as it acquires age, leads to the conclusion that it cannot be considered as the evidence of a truly well-defined or distinct variety; and it has been observed that the intensity of the glaucous hue arises from the greater or less number of *stomata* to be found on the surface of the leaves, when the tree is in a more or less luxuriant flush of growth, and placed in a site and locality peculiarly suitable for its requirements and healthy development.

It may perhaps be as well to observe here,—before passing to a consideration of the present progress and condition of the *P. nobilis* in this country, and its suitability for various soils and altitudes, as evidenced by our Statistical Appendices,—that specimens raised from home-grown seeds have neither proved so strong and healthy as those raised from seeds procured from its



native habitats. This is not to be wondered at, for the produce of cones from trees grown in this country can hardly yet be considered as the progeny of fully developed acclimatised parents. Seedlings from such stock have in various quarters been observed to become soon diseased, the symptoms of inherent weakness being evidenced by a peculiar brownness spreading and presenting itself on the tips of the leaves, which gradually become wholly withered and die. The specimen assumes a yellow and rusty appearance, as if scorched by fire; the ends of the young shoots and branches become curved over and drop off, as fingers and toes do in the human form from frost-bite or mortification. No subject of the animal kingdom, subjected from a milder climate to the rigours and snows of an arctic winter, ever presented a more truly miserable and pitiable spectacle than a specimen of the *Picea* family under such circumstances; and this naturally leads to the inquiry, Can such a condition in this country arise from defective circulation of the sap in the tree, or from inherent weakness of constitution in the individual, the result of imperfectly impregnated seed? To these suggestions—very natural and plausible in themselves—we are inclined to give an unqualified rejection, and would rather endorse and adhere to the views of Dr Berkeley, that the sickness arises from a constitutional weakness in the seed, caused by its propagation in a climate where conditions are not favourable generally to its perfect development; and that hence seedlings from such parents evince disease, and which, should they again ever have vigour to produce fruit, will be a fruitful source of evil by transmitting the weakness in an aggravated form. Judicious “*crossing*” might so far modify this evil,—but this remedy does not yet seem to have been tried. Nothing else, in our opinion, will aid so well and effectually in counteracting the evil, till the pine has become quite acclimatised in this country, and so far advanced and established that really good seed can be got from fully developed seedling plants reared here, and of mature age. If this weakness be a species of “*chlorosis*” confined at first to the tips of branches, and gradually spreading till the tree succumbs—it is well known that chlorotic parents in the animal kingdom produce like stock, and so, throughout all nature, we know that “*like produces like*.” One word more ere we pass to the progress of the *P. nobilis* in our country in various sites, &c. Many specimens have been grown from grafts, cuttings, and buds; and in regard to these, we would only say, that where these modes of propagation are desired to be followed (although we distinctly object to them), they should be done in a careful and scientific manner, and with due regard to physiological peculiarities. Cuttings should be made with a “*heel*” from the pea-green young shoots in August and September; grafts are often very apt to overgrow the parent stock of

silver fir on which they are wrought; and in this particular mode of propagation we would only suggest that the grafts should be set on very low and near the ground and neck of the stock, for being very apt to *overgrow* the parent, by being thus placed low and near the ground, the soil can be earthed up around and over the weak parent, thus placing the graft, as it were, almost on its own root; and should any unduly rapid development of the graft take place, this must be at once checked by simply scarifying with a sharp penknife the back of the graft and parent stock over and *rather close* to the point of junction, and immediately thereafter earthing up the soil round the graft above the point of union. Cleft grafting is the usual method employed in propagating conifers by this mode, and the most careful attention to physiological laws is necessary to ensure success. Cuttings should be made with a "*heel*," as already indicated, and the "*heel*" bound round with small fine wire to confine any attempt at bleeding, till the cicatrix be formed and healed over.

But we must now consider the progress which *P. nobilis* has made since its introduction to this country, in the various soils, sub-soils, altitudes, and exposures, into which it has been placed. In doing so we must refer to the two Statistical Tables we have been able, through the kindness and information afforded by trustworthy correspondents in the different localities, to append to this paper. In Table No. I. will be found dimensions of some of the best and oldest specimens to be met with in the country; but in any inquiry like the present, it is impossible to record all the specimens now to be found adorning the landscape, and therefore, although some equally good trees may not have been specified in the list, enough have been tabulated, from as wide an area of country, and variety of soil and altitude, as to show how generally suitable to our climate is the *P. nobilis*. Generally speaking, we may state that this pine adapts itself to almost any soil, altitude, or exposure. Like all other coniferous trees, it dislikes wind, from which it is apt to suffer in the loss of its young leading shoot. There is no site or station in this country, we have been able to find, where the *P. nobilis* has not proved itself thoroughly hardy and perfectly sound in constitution, and of tolerably rapid growth. It seems, however, to succeed best in good, deep, loamy soil, and in a sheltered locality, and dislikes a soil where lime is abundant. Like its congener, the silver fir, it rather affects a damp situation, and luxuriates in a soil retentive of moisture. For example, in No. 14 of Table I., we find it at Keillor, Perthshire, at an altitude of 650 feet above sea-level, although only planted in 1844, now 56 feet in height, with a girth of stem at 1 foot from the ground, of 5 feet, growing in a moorland soil very retentive of moisture, on the Old Red Sandstone formation. And Mr Thomson of Balgowan, who is also proprietor of Keillor, finds that it is quite

as hardy, and thrives and grows with equal rapidity, in this moorland soil at 650 feet altitude, as in the rich red loam at Balgowan at only 200 feet. By his kindness, we are able to give the exact progress of the tree (No. 14) referred to in our table:—Planted in 1844, and then about a foot in height, it had attained in 1850 to 8 feet, and its subsequent progress has been as follows:—

1857, 23 ft. high,	1 ft. 6 in. circumference,	at 3 ft. from ground.
1864, 34	” 2 ft.	”
1867, 41	” 2 ft. 7 in.	”
1878, 56	” 4 ft. 7 in.	”

At the lower altitude, although in better but drier soil and subsoil, it does not develop so rapidly in bole circumference. This has also been observed in other localities under similar conditions. Indeed, its peculiar suitability for high altitudes above sea-level is very abundantly testified to by our returns from different districts. In Wales, for instance, there are various high situations from which good specimens are reported. We find them at St Asaph, Hafodunos, and at Abergele, Denbighshire, it luxuriates at 700 to 800 feet above the sea in a stony and poor soil on hard till subsoil. Planted there in 1857, it is now to be found over 35 feet in height.

In this situation, also, are to be found fine healthy specimens of *Fagus betuloides* and other hard-wooded trees, and for the last thirteen years *Pinus muricata* has produced annually loads of cones. *Pinus Pinsapo*, *P. bracteata*, *Picea Nordmanniana*, and *P. lasiocarpa*, also thrive well at the same altitudes, which supports the theory now generally understood, that the newer coniferæ do not suffer in this country from being planted in suitable positions at such a lofty elevation as even 600 to 800 feet above the sea-level. Indeed they all, and *P. nobilis* equally with the other varieties, will generally be found *least* satisfactory in low situations, where they are more exposed to late spring frosty nights and prevalence of damp fogs. It must not, however, be assumed from these remarks that the *P. nobilis* cannot be profitably planted at *low* altitudes. We have recorded numerous instances where even almost at sea-level it is succeeding well in this country. For instance, at Gordon Castle, Fochabers, at only 70 feet above sea-level, young plants are thriving admirably, and although not yet so fully established as to be making rapid growths annually, they are quite equal to the common silver fir in that respect. The soil is a dark loam on a subsoil of gravel. At Taymouth (360 feet altitude) it is as hardy as the common spruce. In Greenock Cemetery, at 80 feet altitude, in good shallow loam over trap-rock, it is to be found now 30 feet in height, and thriving well, although it is sometimes browned by

the strong westerly winds in spring; while at 300 feet altitude, in the same district, it has outgrown or overcome this tendency. Again, at Smeaton, Haddingtonshire, at an equally low altitude, there are two very fine trees growing in fine loam soil upon gravelly subsoil. Planted in April 1841, and then about a foot in height, one is now 48 feet 5 inches in height, and girths at 1 foot from the ground 6 feet 7 inches, and at 3 feet, 5 feet 6 inches. This tree has several times lost its leader from the attacks of the beetle, but forms another quite rapidly. The other specimen is situated in a damper site adjoining the lake, which is a picturesque feature in these beautiful grounds, and the advantage of the greater moisture of the site is apparent in the heavier bole and better development of wood within the same space of time. Being planted at the same date as the foregoing tree, it is now the same height, but girths 8 feet 6 inches at 1 foot, and 6 feet 3 inches at 3 feet from the ground. In this case, however, it should be observed that the loamy soil lies immediately over the cool subsoil of the trap-rock, which, for the development and growth of the *P. nobilis*, is undoubtedly a combination of the most favourable circumstances. There are many other large and fine specimen trees of other species of the coniferous family in the beautiful collection of Sir Thomas Buchan Hepburn, Bart., at Smeaton. Young plants of *P. nobilis* at Fordell, Fife, 260 feet altitude, are thriving well, and are quite as hardy as the other coniferæ in the fine collection of that place. They are within the influence of the sea-air from the Firth of Forth, and easterly winds which prevail in spring. At Oxenford, Mid-Lothian (450 feet altitude), in light soil on yellow subsoil, conifers get covered with resinous blisters on the stems, and are not so suitable as hard-wooded trees; and *P. nobilis* is affected there in the same way. At the Cairnies and Glenalmond, Perthshire, there are fine specimens now thirty-five years old. At an altitude of 520 feet, we find one has attained a height of 47 feet, and is 4 feet 9 inches in circumference, growing in a sharp black soil, upon a gravel and sandy subsoil over dead sand; while another, at 612 feet altitude, of the same age and in the same soil, would now have been much taller, had it not unfortunately repeatedly lost its leading shoot. It is, however, 36 feet high, and is only 3 inches less in girth than the taller tree at the lower elevation. In Aberdeenshire, this partiality for a high site is apparent. We find plants of *P. nobilis* in that county at 600 feet above sea-level, which have made, during the past four years, 10 feet of growth, in a soil composed of a mixture of peat and loam on a loosened clay-pan subsoil, and fully exposed to the north and west. In the same situation the average annual growth of the glaucous (so-called) variety has been 2 feet during the past three years. At Keithhall, Aberdeenshire, Mr Clark, the experienced

and intelligent forester, reports that he has planted *P. nobilis* in quantity, and that they are making strong annual shoots of from 15 inches to 30 inches;—the boles showing by their stoutness near the ground that the trees may be expected to become large and heavy timber, and to prove in the locality, within the next fifty years, a great boon for farm buildings and other country constructive purposes. It is in Aberdeenshire thoroughly hardy; but in some of the light gravelly soils it is rather slow of growth when young. Thus, at Balmoral, we find that,—when introduced along with many other varieties of the coniferæ by the enterprising zeal and arboricultural proclivities of the lamented Prince Consort, whose skill and eye for landscape effect have changed the face of the estate from a sterile, rugged, and uncultivated waste into a demesne of beautiful cultivation and a spot rich in landscape effect, where the artificial is admirably blended and harmonised with the natural beauty of the scenery,—plants of the *P. nobilis* planted in 1856 had in January 1878 only attained a height of from 18 to 20 feet. They grew very slowly for some years after being introduced into the light, gravelly soil, and coarse, dry, gravelly subsoil at this elevation (860 feet); but now, since they have become established, their young shoots for each of the past three years have been from 15 inches to 20 inches in length. Generally in Aberdeenshire and other counties of Scotland, much exposed to the easterly and north-easterly winds of spring, all the coniferous family suffer more than on the western and midland counties, so that the success of the *P. nobilis* in such open exposures warrants the belief in its thorough hardihood. In one respect it has the advantage of never opening its buds in spring so early as to be bitten by the late spring frosts; and again, its period for producing growth is so brief, that even in a climate like that of Great Britain there is ample time in our short summers for the full development and ripening of the season's wood before the winter frosts set in. In the neighbourhood of Keithhall it thrives in low-lying bog-earthly soil at the river (Don) side, and at 50 feet higher up it is again seen luxuriant in loam on a subsoil of hard gravel; and again, at 200 feet higher still, on a clay loam with subsoil of whin-rock, it is making even better progress and is as hardy as it is in the lower altitudes. One fine specimen blown down in January 1868 at Durris (Kincardineshire) was then 40 feet in height, although only twenty-eight years planted. Mr Begg, factor to Mr Young of Durris, reports that 8000 young plants had been reared from cones produced by this tree, and that the seedlings have proved quite hardy and healthy. The soil is of a free, open, porous, granitic nature, upon a subsoil of gravelly clay, but porous. In season 1875, Mr Begg informs us that from 70 cones of *P. nobilis* he succeeded in raising 1000 plants; and in 1876 he gathered 160 fertile cones from the

*P. nobilis* in Durris grounds. The largest *P. nobilis* probably in the north of Scotland is at Coul, in Dingwall, which is now fully 70 feet in height, but we regret having as yet been unable to obtain the exact dimensions of this tree. It carried in 1872 a beautiful crop of cones.

As a further instance of the suitability of *P. nobilis* in this country for any situation, the specimens grown at Poltalloch, Argyleshire, may be mentioned. There it has been introduced in quantity, in all descriptions of sites from 400 to 500 feet altitude, and is doing remarkably well in them all. The largest tree growing there was unfortunately blown down in the gale of 21st October 1874, and its height was then 58 feet 4 inches. The girth at the butt was 6 feet 6 inches, and at 10 feet higher up it was 4 feet 6 inches; at 20 feet, 3 feet 8 inches; and at 30 feet it measured 2 feet 10 inches. It had coned in abundance for some years, and from its produce and that of No. 20 in our Table I. thousands of plants have been raised and placed in various sites, and these now range from 2 feet to 8 feet in height, and are very promising. Some are growing in bog-peat, and others in sandy loam, and are doing equally well. Those in peat assume a darker and richer green foliage, and consequently present a more healthy appearance. The tall specimen referred to as having perished in the gale of 1874, grew at only 70 feet altitude, in a mixture of loam and peat, on a slope bordering on a bed of bog-peat. On Lochfyneside the *P. nobilis* and other Coniferæ grow with all the luxuriance they exhibit at Poltalloch, Inveraray, Strachur, and other places along the west coast of Scotland, and in these districts the *P. nobilis* may be, with great advantage, planted far more extensively than it has as yet been. Mr Duncan, an enthusiastic arborist, and proprietor of Benmore, has been recently planting it very extensively in various soils, and at altitudes varying from 10 feet to 400 and 500 feet above sea-level, and the young trees are thriving very well. They have been generally planted in pits prepared for them with a little good soil, and are taken from the home nursery with good root-balls. It is much to be desired in the interests of arboriculture in Scotland, that other extensive proprietors in various districts would follow the examples of Mr Duncan of Benmore and Mr James Young of Durris, in introducing the better varieties of the newer Coniferæ of such species as have now proved themselves hardy, in quantity on their hill-sides, and in existing plantations.

Some of the more remarkable instances of the thorough hardihood of the *P. nobilis* in this country,—independently of those instances recorded from Wales and showing suitability to adapt itself to high altitudes,—occur in England. We find, for example (Table I. No. 34a), at Buckden, in Yorkshire, at an

altitude of fully 900 feet, it is now 46 feet in height, although only twenty-seven years planted, and perfectly hardy.\* In this situation there are also several smaller specimens of the species recently planted which are doing very well, and invariably give promise of withstanding with impunity the rigours of the climate of Buckden, where the winters are long and severe; but probably, as has already been suggested, the length of the winter at such an altitude preserves them from meeting the fate of many of the species in milder climates, as their development of buds is retarded till all danger from spring frosts is over.

As a further proof of the preference shown by the *P. nobilis* for a damp situation, we should not omit to notice that, during last year (1877), which will be generally remembered as a cold, wet, and continuously damp season, the *P. nobilis* grew actually *three feet* at Slogarie (Wigtownshire); in that district the rainfall had marked 75 inches, and the plants were growing in a deep, dry, loamy soil, on a subsoil of boulder till. The altitude is 300 feet, and the trees have an open northerly exposure. In many other localities also last year, the growths of the *P. nobilis* were observed to be equally rapid, and unusually long, thus showing its predilection for damp soils, climates, and seasons.

In Dorsetshire, the *P. nobilis* does not thrive so well as in other counties, being so near the chalk. Where this formation is present, the pine family generally languish on in an unhealthy condition for some years, and then succumb from decay on the root-fibres reaching the chalk; and this also has been the consequence of the introduction of *P. nobilis* in such districts. The only conifers which seem more able to survive under such circumstances are the *Pinus austriaca* and *Cedrus Deodara*, which will live on for twenty years or so, but they too finally droop and die; or, if assisted in individual instances by adventitious appliances, will linger on, existing, but evincing none of the characteristics of suitability to the situation. However, in this soil in these districts, the common English yew (*Taxus baccata*) grows luxuriantly, and attains to a great size and age. At Milton Abbey there is one 14 feet in girth at 4 feet from the ground, and which, at 6 feet from the ground, forms itself into two huge limbs, each measuring 9 feet in girth,—the height of the tree being 55 feet. We know of no other instance of a conifer thriving in the chalk formation so luxuriantly as this.

Although this Report is limited, strictly speaking, to an inquiry into the progress and suitability in Scottish soil of the *P. nobilis*, and to its consequent prospective value as a timber tree in North Britain, we have adduced, for the sake of comparison, a few

\* This tree measured only 20 feet in height in 1864.

instances of its growth in England and Wales, and by recording a few heights and dimensions of the pine in the sister country, in the appended Tables, we are able to see that in no way does the more northern situations operate detrimentally to its growth and hardihood; nor are the specimens less rapid in growth in Scotland, when once they are fairly established, than in the more genial English climate. Through the kindness of one of our correspondents at Enville Gardens (Staffordshire), where there is a most magnificent specimen of the *P. nobilis* now thirty years old, and 54 feet 6 inches in height, with a girth of trunk at 1 foot from the ground of 8 feet; we are able to give an accurate chemical analysis of the soil in which it luxuriates, and which proves so suitable for its development:—

	Parts.
Organic Matter and Water, . . . .	6·24
Oxide of Iron, . . . . .	3·54
Alumina, . . . . .	1·71
Phosphoric Oxide, . . . . .	·05
Carbonate of Lime, . . . . .	1·35
Magnesia, . . . . .	·10
Sulphate of Lime, . . . . .	·22
Potash, . . . . .	·06
Soda, . . . . .	·03
Silicious Matter, . . . . .	86·60
	100·00

In too marshy sites, if confined amongst other large hardwooded trees, the *P. nobilis* does not succeed so well. We have observed this in several situations, but the most apparent instance occurs at Eglinton Castle, Ayrshire, where a plant growing at the foot of a steep terrace, and in a very damp and marshy soil, after attaining a height of 30 feet, with a development of bole of only 3 feet 4 inches in circumference, suddenly pined away, and after lingering some time in very delicate health, was at last cut down as an unsightly object. This plant was placed in quite close proximity to and overshadowed on all sides by large beeches and elms.

Before passing on from this cursory notice of some of the best specimen trees which we have been able after careful inquiry to record, we must not omit to mention some others, of which we have not been able to obtain full details of dimensions, but which are probably equal to any of those of which details are given in Appendix, Table I.



One magnificent specimen has been reported to us by our friend Mr Fowler, the well-known and justly-esteemed arborist at Castle-Kennedy, as having been observed by him when in Ross-shire, and which he considers the *finest* he has seen. It grows at Fairburn (Ross-shire), and is about 60 feet in height, and towers above all the surrounding trees most majestically. Another very fine tree is at Coul (Ross-shire). It covered a circumference of 98 feet with its lower branches when last measured, and was about 70 feet in height. It is understood to have been planted by Mr A. Ramsay (late manager of the Edinburgh Water Company) upwards of forty years ago; it has several times lost its leading shoot from severe storms, but has always formed a new one, and had, when reported to us (in 1878), a perfect one. It has several times yielded cones. Mr Fowler himself has a very fine specimen of his own rearing at Castle-Kennedy. In 1861 it was 14 feet high, and was then 12 years old. It is now 38 feet, and very symmetrical, with a bole 7 feet 8 inches in girth at 1 foot from the ground. Mr Fowler considers that the *P. nobilis* will prove in this country a valuable timber-tree, as it has the habit we have already noticed of concentrating its growth and energies to the formation of wood in the stem, the branches being small in diameter in proportion to the size of the trunk, and the older the tree becomes this property is the more apparent.

In the grounds of Riccarton, Mid-Lothian (which abound in fine specimens of the best species of the newer introduced Coniferæ), we find a magnificent *P. nobilis*. It is growing at 300 feet altitude, and is thirty-six years old and 50 feet in height, with a bole 6 feet 2 inches in circumference at 1 foot from the ground. It grows in a loamy soil, on a subsoil of clay and sand. It has several times lost its leader, but is nevertheless quite symmetrical, as it soon repairs the injury. From this tree upwards of 1000 seedlings have now been raised; but probably from the unequal ripening of the cones, the seedlings did not always appear equally healthy and robust in the nursery beds. But notwithstanding this, many of the progeny of this tree in various sites are now at least from 5 to 6 feet in height, and perfectly healthy, and of that deep, dark green hue which can only be present where there is perfect vigour and health of constitution,—a circumstance which does not go to support the theory of some arboriculturists, who hold that *none* of the produce of home-grown cones can be equally hardy with seedlings raised from foreign seed. At Cargen (Drumfriesshire), young trees grown from a cone taken from this Riccarton tree are thriving well, and are now above 10 feet in height. From a very healthy specimen tree at Verner's Bridge, Moy, Ireland, planted in 1848, and now 43 feet in height, with a girth of 5 feet 10 inches at 1 foot from the ground, many young seed-

lings have been reared, and are all equally hardy with the parent tree.

The usual method of growing seedlings in this country is to sow the seeds in the open nursery ground in the month of April, the details of treatment being the same as for the seeds of the other Coniferæ. They prove quite hardy and braird well, nor is the young braird liable to be cut down by late spring frosts. Their subsequent treatment, after being two years transplanted in the nursery lines, is generally to plant them out in a mixed plantation of Scots fir and larch; and should the soil happen to be rich in organic matter, the trees will make larger and more rapid annual growths than if placed in clay and gravel or thinner soils. The young plants thrive remarkably well on peat-bog, especially where the bog is decomposed and is intermixed with some soil. In such sites it is no unusual thing to see the young trees making annual shoots of 20 to 24 and even 30 inches under favourable circumstances of exposure and season. Planted out singly and in an open situation, the *P. nobilis* frequently makes slow progress at first, and for some years in light soil this is also the case. In such cases, and also if it be a grafted specimen or a cutting, much pinching in, when young, is required to induce it to throw up a good top shoot; indeed, careful treatment, by disbudding superabundant side shoots; when the young seedlings have been transplanted into the nursery-rows, will assist them materially in forming good leaders; and the stronger growth thus induced into the terminal shoot of the seedling is of great use in promoting a more rapid growth in the tree when planted out in its destined situation.

It is, of course, somewhat premature to report on the value of the wood of the *P. nobilis* from any of the specimens grown in this country, which have been felled or been blown down by the fury of the gales from which our coasts are so liable to suffer, and which are more injurious in our climate than anything else to the Coniferæ. Still, from what small experience has been gathered from such trees as have been cut up, we may state that the wood proved to be close-grained and "clean," and is apparently superior to, and as durable as, the white or yellow pine of commerce. We have the testimony of the introducer Douglas, who said that its timber was "good." Some planters think that although its wood will not prove "first class,"—fearing it may prove soft and white,—they are still justified in planting it extensively on account of its alleged durability; but until it has been longer in this country, and had ample time to develop its timber-producing capabilities, it would be wrong to condemn a tree whose pre-eminent quality (if it had no other), viz., its unequalled value for ornamental effect, must render it an acquisition, whose more extended introduction throughout the country is much to be desired; and as we

have every reason to believe that, independently of its valuable characteristic as an ornamental tree, it is evidently one of heavy timber-producing capabilities; and seeing that it ripens its seed quite freely in our climate, and produces young trees of a hardy constitution, it is well worthy of being planted generally throughout Scotland, as a common forest tree;—and equal at least, if not superior, to most of the Scots fir, spruce, silver fir, and larch now cultivated; and in sites where the common silver fir does not succeed, the *P. nobilis* appears to thrive quite well, and may be there introduced with advantage.

## APPENDIX No. I.

BRITISH STATISTICS OF *PICEA NOBILIS*,

Showing its Progress, and Suitability for various Soils, Subsoils, Altitudes, &c., tabulated from Authentic Data, supplied by the Growers in each Locality:—

No.	County.	Place.	Altitude above sea.	Age	Height.		Girth.		Soil.	Subsoil.	Remarks.
							1 Foot.	3 Feet.			
1	Ross	Brahan	...	...	47	0	6	4	5	0	{ Black loam rather clayey } Sand and gravel } Very vigorous.
2	Do.	Ardross	450	28	40	0	5	4	5	0	{ Black loam } Hard clay { Exposed to S.W. and N.W. winds.
3	Do.	Do.	450	28	38	0	4	6	4	0	{ Do. } Hard clay { Thriving well.
4	Do.	Coul;	110	40	63	6	7	2	6	3	{ (Light clay loam) } Clay { Circumference of ground branches 98 feet.
5	Moray	Gordon Castle	70	17	32	0					{ Dark loam } Gravel { Thriving and hardy.
6	Aberdeen	Keith Hall	200	14	18	0	1	8	1	4	{ Clay loam } { Rotten rock } Thoroughly hardy.
7	Do.	Kingswells	600	10	18	0	2	0	1	5	{ Peaty loam } Clay pan { Very luxuriant.
8	Do.	Do.	600	6	12	0	1	0	0	8	{ Light loam } Clay pan { Very vigorous, variety <i>glauca</i> .
9	Do.	Balmoral	860	22	20	0					{ (Light gravelly) } Coarse gravel { Now, doing well, slow progress at first.
10	Perth	Abercainry	150	20	27	0	3	4	2	11	{ Loam } Clay { Rather sickly, and not very vigorous.
11	Do.	The Cairnles	625	25	35	0	4	5	3	11	{ (Thin moorish strong, sharp, red sand Good, sharp, black soil) } Hard clay { Very vigorous, N.E. exposure.
12	Do.	Do.	500	25	33	0	3	7	3	2	{ } Sandy clay on free- stone { Quite hardy, N. exposure, on river bank.
13	Do.	Glenalmond	520	35	47	0	4	9	4	0	{ } Gravel and sand { S.W., very thriving.
14	Do.	Do.	612	35	36	0	4	6	3	10	{ Do. } Do. { Very healthy; lost its leader several times.
15	Do.	Keillor	650	34	56	0	5	0	4	7	{ (Moorish retentive soil) } Old Red Sandstone { Of late years it has frequently lost its leader.
16	Fife	Fordell	260	21	28	0	3	0	2	8	{ Good loam } { Gravely and clayey Retentive clay } Very beautiful and hardy.
17	Linlithgow	Hopetoun	260	20	31	0	3	0	30	0	{ Sandy loam } { Exposed to W., very hardy.

No.	County.	Place.	Altitude above sea.	Age	Height.	Girth.		Soil.	Subsoil.	Remarks.
						1 Foot.	3 Feet.			
18	Mid-Lothian	{ Oxenford Castle }	400	16	22 0	2 10	2 4	Light	{ Yellow sand Yellow clay }	{ Very hardy and vigorous. Thriving well.
19	Do.	Glencorse	700	20	30 0	2 3	2 1	{ Light sandy clay Loam and peat Loam }	{ Bog peat Gravelly }	{ Very vigorous and healthy. Very healthy. In rather damper site than the preceding one. Has twice lost its leader.
20	Argyle	Poltalloch	55	35	53 0	5 0	4 6			
21	Haddington	Smeaton	...	37	48 5	6 7	5 6			
22	Do.	Do.	...	37	48 5	8 6	6 3	Loam	Trap rock	
23	Mid-Lothian	Riccarton	300	36	50 0	6 2	5 0	Loamy	{ Clay and sand Do. }	
24	Do.	Do.	300	26	21 0	2 3	1 5	Do.	Do.	
25	Dumbarton	Rosdhu	200	17	25 9	3 0	2 8	Rich loam	Gravelly	{ Quite hardy and vigorous. Very beautiful habitat and hardy. Very healthy and free grower.
26	Do.	Balloch Castle	100	18	40 0	3 9	3 6	Peaty loam	Whin rock	
27	Dumfries	Dalskairth	...	32	45 0	7 6	4 9	...	...	
28	Berwick	{ Dunse Castle and Langton Bargany }	450	12	25 0	2 9	2 1	Light	Gravel	{ Rather exposed. and quite hardy. Very luxuriant.
29	Do.			20	30 0	4 6	4 0	...	...	
30	Wigtown	Slogarie	300	...	12 0	1 6	0 10	{ Deep, dry loam { Gravelly loam }	Boulder till Porous gravel	{ Very healthy; a grafted plant, variety <i>Glaucus</i> Very healthy and thriving.
31	Do.	{ Castle Kennedy }	100	28	38 0	7 8	7 6			
32	Ayr	{ Eglinton Castle }	...	...	30 0	3 4	...	...	...	{ In too damp and confined site; not healthy.
33	Derby	Chatsworth	450	35	75 0	7 0	6 4	{ Hazel loam, strong sand }	{ Poor, yellowish, watery sand }	{ Hardy.
34	Stafford	Enville	...	30	54 6	8 0	6 3	{ Medium loam Light granite, rocky Sandy loam }	{ Gravel and sand Mountain limestone }	{ Thriving luxuri- antly. Very hardy
35	Salop	Weston Park	900	33	45 0	5 0	1 2		Old Red Sandstone	{ Very hardy.
36	South Wales	{ Hafodunos Abergelle }	750	20	26 0	2 6	2 0	{ Stony and poor Loamy soil }	Hard till	{ Quite hardy.
37	Do.	Rathin Castle	...	18	20 0	2 6	2 0		{ Red sand- stone }	
38	Do.	{ Wygfair, St Asaph Verner's Bridge, } Moy	600	22	30 0	2 3	2 0	{ Light loamy }	{ Stiff clay }	{ Quite hardy, very <i>glaucous</i> .
39	Ireland		70	30	43 0	5 10	4 10	Clay loam	Clay	Very vigorous.

## APPENDIX No. II.

LIST OF STATIONS IN SCOTLAND where (although details of heights and girths have not been obtained) the *Picea nobilis* is found to succeed well, and has in many cases already attained to upwards of 30 feet in height.

No.	County.	Place.	Altitude above sea.	Soil.	Subsoil.	Remarks.
1	Roxburgh	Wanchope	Feet. 600	Loam	Tilly	Growing rapidly.
2	Dumfries	Drumpark	...	Gravelly	Gravelly till	
3	Kirkeudbright	Cairnsmore	200	Light loam	White till	{ Grafted, healthy, but slow grower
4	Renfrew	{ Greenock to Cemetery	{ 80 to 300	2 ft. loam	Hard rock	Very healthy.
5	Do.	Ferguslie	85	Good clay	Strong clay	Very vigorous.
6	Peebles	Darnhall	800	Loamy	Gravel	Hardy and vigorous
7	Do.	Dalwick	{ 650 to 900	Light loam	Gravel	Do.
8	Linlithgow	Carlowrie	92	Heavy loam	{ Clay and gravel	Very healthy, but slow grower.
9	Do.	Rockville	{ 230 to 280	Loam	Clay	{ Not very rapid grower.
10	Do.	Kinneil	80	Light loam	Gravel	Very healthy.
11	Stirling	Drumore	40	Sandy	Gravelly	Very strong.
12	Do.	Rosehall	160	Deep loam	Sand	Quite healthy.
13	Do.	Mayfield	150	Loam	Sandy	Doing well.
14	Kinross	Green	300	Gravelly	Gravel	Quite vigorous.
15	Forfar	Camperdown	290	{ Gravelly loam	{ Stiff clay	A splendid tree.
16	Perth	Tulliallan	50	Light loam	{ Clay and gravel	{ Growing slowly.
17	Do.	Keir	600	{ Vegetable mould	{ Clay with oxide of iron	{ Very luxuriant.
18	Do.	Taymouth	370	Light loam	Gravelly	Most vigorous.
19	Do.	Murthly Castle	150	Light	{ Gravelly and sandy	{ Most healthy.
20	Argyll	Stonefield	{ 30 to 200	Brown loam	Rock	Very healthy.
21	Kincardine	Durris	300	Light loam	{ Loose gravelly clay	{ Very vigorous.
22	Aberdeen	Balmoral	870	Light	Gravel	{ Thriving, but a slow grower.
23	Moray and Banff	Ballindalloch	470	Loam	Gravel	Healthy.
24	Moray	Gordon Castle	70	Dark loam	Gravel	Do.
25	Ross	Tarbat	6	Light loam	{ Gravel and sand	{ Quite vigorous.
26	Caithness	Fors	{ 50 to 60	Stiff loam	Clay	Thriving.
27	Bute	Montford	{ 10 to 100	Peat	Clay	Quite healthy.

ON THE ADVANTAGE OF PLOUGHING IN MANURE AT ONCE  
ON BEING SPREAD, OR LEAVING IT SPREAD FOR A TIME.

By JOHN AINSLIE, Junior, Hillend, Loanhead.

[*Premium—The Medium Gold Medal.*]

IN these days, when land and wages are so high, and opposition so great by foreign consignments and otherwise, farmers must try as far as possible to lessen their expenses and raise larger crops on the same breadth of land, by applying large quantities of farm-yard and other manures, in such ways as they find may prove best adapted to their different climates and soils. Keeping this in view, I may state the system practised on this farm for a great number of years back under the above heading, which is to allow as large a proportion as possible of land intended for potatoes or turnips, to lie for six or eight weeks, or even more, as circumstances would permit, with the manure spread on the surface before ploughing in. The first time this was specially recognised was about nine or ten years ago, when part of a large field lay spread with manure from the end of November till the beginning of February, when the other part of the field was manured, and all ploughed in at once. The part with the manure lying spread on the surface so long looked much better to the eye during the summer, and lifted a much heavier crop of potatoes. Unfortunately, however, for that season, there was no comparison made. Ever since then it has been done on this farm more or less.

I have never weighed the turnips, as they are always partly ate on the ground with sheep, but the parts which lay longest with the manure spread without being ploughed in look much better to the eye. The barley also shows a marked difference, but has never been compared.

The land thus referred to consists of a medium light soil, stands about 500 feet above the level of the sea, and four miles south-west from Edinburgh.

In the autumn or winter of 1875, I began, however, to make an experiment; I then thoroughly compared the two different systems of ploughing in the manure. On a field of 12 acres intended for potatoes in 1876, I put 25 tons of good horse and cow manure, thoroughly mixed, to each imperial acre in the first week of December, spread it all at once and ploughed in 6 acres on the following week; the other 6 got a good week's storm of frost and snow, plenty of rain and wind during the time it lay spread on the stubble. It was exposed to the weather for about seven weeks, being the first week of February before it was ploughed in. The potatoes were planted in the second week of April, getting all the same chance otherwise, and when lifted in October were pitted separately, till disposed of during the winter

and spring of 1877. The first part on which the manure was so long exposed raised 6 tons 19 cwt. and 1 quarter per imperial acre; while the other part, which was ploughed in immediately after spreading, only realised 6 tons 14 cwt. per imperial acre, being 5 cwt. 1 quarter in favour of the part with the manure long exposed. The potatoes were sold at different times and at various prices, ranging in general from 20s. to 24s. per boll; only 4 tons being sold, on the 9th October 1876, as low as 15s. per boll, or £3, 15s. per ton. There were no more disposed of until the 8th January 1877, when some were sold at 20s. per boll, or £5 per ton, and so on till 16th April at various prices, averaging on the whole 21s. 9d. per boll, or £5, 8s. 9d. per ton. It will therefore be seen from the foregoing that the price per acre, derived from the part with the manure so long exposed, was £37, 17s. 2d.; while the other was only £36, 8s. 7½d., being £1, 8s. 6½d. in favour of the former.

The wheat for the next season was sown on the third and fourth weeks of November 1877. It all sprang up pretty regularly; there was no marked difference during the spring and early summer, nor up till it came into ear, when the part with the manure long exposed got a little longer in the straw and larger in the head, and showed itself then quite distinctly; but as that year's wheat was very indifferent in our district, both in quantity and quality, they both yielded very unsatisfactorily. The part with the exposed manure yielded 3 quarters 4 stones and 7 lbs. per imperial acre, and weighed 18 stones per boll, while the other realised as near as possible 3 quarters per imperial acre; the whole was mixed together and sold as one sample in Edinburgh market, on the 14th August 1878, at 42s. per quarter. This will again show that the price per acre derived from the part with the manure so long exposed was £6, 11s. 3d., and the other £6, 6s., being still 5s. 3d. in favour of the former.

The turnips this year were sown on the 15th, 16th, and 17th of May; they all came away very well, and were singled from the 20th to the 26th of June. The part where the manure was ploughed in immediately after spreading kept rather ahead of the exposed part till about the middle of September, when the former rather stopped growing, and the latter got up to them. There is now little or no difference on the whole field, and as I intend eating them on the ground with sheep, there will be no comparison made neither by weight nor price.

Besides realising higher prices for the parts where the manure is allowed to lie spread, it economises labour; and potatoes are invariably found to be better quality manured in this way than spring manuring in the drill, which is a point of very great importance to a farmer. It is also well known to every one who has paid attention to the cultivation of land, that the parts which

have been covered with dung always raise larger crops, the reason being the retention of the moisture, the regulation of the temperature, and that the decomposition of the manure is allowed to go on without interruption. I have always observed that where land has been covered during winter with anything, even with stones, it raises a larger crop than that which has been exposed to the weather.

In conclusion, I would recommend that the manure should be spread immediately on its being carted on to the field, and not allowed to lie in heaps for weeks before it is spread, which is too common, and a very bad practice. Every one conversant with agriculture, who has paid attention to this, cannot fail to have observed that the small spots on which the heaps have been lying are much richer, and yield better for two or three succeeding crops, the reason being that the action of the weather carries down the main substance of the manure into the small parts of the field on which it is heaped, and diminishes to a considerable extent the manure which is to be spread over the greater bulk of the field. When it is inconvenient for this system to be carried out, I would recommend that the manure should rather be left in the dunghill on the field, than be put out in heaps, until both the carting out and spreading can be carried on at once, which will be found to be much more beneficial to the land and profitable to the farmer.

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ON THE OLD AND REMARKABLE SPANISH CHESTNUTS  
(*CASTANEA VESCA*) IN SCOTLAND.

By ROBERT HUTCHISON of Carlowrie, Kirkliston.

[*Premium—The Gold Medal.*]

AN accurate, and therefore *reliable* catalogue and account of the trees in any country, remarkable for their age, beauty, dimensions, or historical associations, would, to the enthusiastic tree-lover and arboriculturist, be not only deeply interesting and instructive, but would be useful also, as forming a *census*, as it were, of the individual specimens of each species of greatest note in the various districts, and would afford most interesting material in future years for the comparison of the progress or decline, the increase in bulk of timber, or of height, in different localities and soils, and under different climatic circumstances of the respective trees themselves, thus tabulated and recorded.

But while such a catalogue and description of the old and remarkable trees of Scotland would not fail to be of deep interest and utility to proprietors and foresters generally, and would



indirectly afford many practical hints, as well as present inevitable conclusions as to the suitability of certain species to certain soils, sites, &c., in relation to longevity, the inquiry would also undoubtedly prove of value to the antiquarian and historical observer, by enabling him sometimes to identify in different localities, by certain individual trees, the spot which tradition or legend points out as marking the scene of events in the dim vista of the past, connected with the national history of the country; and consequently the connection of such events,—almost how forgotten they may be,—with certain known localities at the present day, though their features may have become so changed physically, through the progress and development of the country around, as to render such old associations unrecognisable without the aid of such old living landmarks. In this way a halo of interest and romance may be preserved or thrown around a district which its own prosaic and practical features of the present day tend only to forget and obliterate.

Nor is the subject of recording the old and remarkable trees of the country a novel or original one. From time to time, and many years ago, attempts have been made by ardent tree-lovers to note such noble specimens falling within their own immediate observation, as appeared to them to be worthy of record. So long ago as between the years 1764–84, that worthy and quaint old student of nature, Dr Walker, Professor of Natural History in the University of Edinburgh, had collected, and published in 1808 a “Catalogue of Remarkable Trees in Scotland;” but, considering the difficulty and expense of travelling, and the scant means at hand for obtaining information at that time, it is not surprising that his catalogue is rather meagre, considering the long course of personal observation it had involved,—namely, above 40 years. Statistics were also collected by schedules distributed over the length and breadth of the country about the year 1860 or 1861, by the Council of the Royal Horticultural Society of England; but these do not appear, by any frequency of reference to their details, to form any standard of reference for the present day, if indeed they ever appeared in any separate and available form apart from the Society’s own archives;—a point upon which we have no information. A further, and probably the most exhaustive contribution to this interesting chapter of tree knowledge, appeared under the auspices of the Highland and Agricultural Society of Scotland in 1864 (?), the data having been variously collected between 1861 and that year. This volume was carefully compiled and edited from the mass of crude matter handed to him by the Society, by Mr William Thomson, late of Dalkeith Park, now of Clovenfords Vineyards, near Galashiels, and was published along with the Transactions of the Society in parts; but while, as a whole, this catalogue is the best which has yet appeared,

it is probably too much a mere general list of fairly good specimen trees of the various descriptions usually met with, than really a syllabus of the grand galaxy of rare trees, as to size, appearance, or tradition existing in Scotland, and it appears to have unaccountably omitted many of the most notable, while it also records those in several districts in no way remarkable for either dimensions or interest.

It appears, therefore, independently of the lapse of years which has taken place since these various previous efforts to tabulate the old and remarkable trees of Scotland were made, and notwithstanding the labours of these pioneers in the exploration, that there is a wide field still open from which new and fresh facts may be gathered, and specimens hitherto unobserved be recorded; and it is well, therefore, that the Highland and Agricultural Society of Scotland has invited fresh information regarding the old and remarkable trees of the country, and have begun by proposing the Spanish chestnut, in the first instance, as a subject of investigation; and with the view of rendering the facts and data already published by previous essayists, who have been referred to, as useful as possible, we shall in this paper as far as possible follow up the investigations of the previous inquiry, and, where it is possible, identify and determine, by fresh measurements of already recorded trees, their progress or decay; while such hitherto unrecorded remarkable trees will be noticed as may have come under our personal observation, and the tables appended to this paper will be arranged in such a way that, as from time to time new instances of remarkable chestnut trees may come under notice, details and particulars of these may be added to the list in the appendix. It is unfortunate, for the sake of comparison, that previous measurements of girths have not been taken at uniform points on the trunk. In the schedule we have appended, these have all been taken at 1 and 5 feet from the ground, although, in some cases, girths of the trees at other points are also given. The circumferences of most trees at these two points, with the height of the bole, or length of stem, will generally be found to convey a very accurate idea of the magnitude and capacity of the tree; while they are pretty much in accordance with the generally accepted theory adopted in the continental schools of forestry, of measuring the girths of all trees *breast-high*. Of course, in the collection and tabulation of such a catalogue, it is desirable to have it as full and minute as possible; still in such a widely distributed field of inquiry, it is impossible to avoid, in the first instance, having made many omissions of large trees worthy of notice in such a list; and to the co-operation and aid of willing correspondents who have already kindly supplied much valuable detail, we confidently turn for further information regarding overlooked districts, or individual

trees, so that the catalogue may, at a future time, be rectified and largely added to.

Before proceeding to describe the various old and remarkable Spanish chestnuts in Scotland which have come under notice, it may perhaps be proper to make a few remarks generally regarding this tree and its distribution in the country.

By some early authors the Spanish chestnut (*Castanea vesca*) was considered to be indigenous to Britain, but this will, on the slightest reflection, be seen to be a mistake, for no tree which does not readily ripen its seed in this country can be said to be indigenous. In very favoured situations, and in particularly favourable seasons, the Spanish chestnut occasionally does ripen its fruits, but such instances are rare, and form the exception to the rule. It was more probably introduced into Britain by the Romans, who probably also, on account of its value as a fruit tree, had previously carried it with them from Italy into France and Spain and other countries of Europe at a very early date. In a paper proposing to deal with the old and remarkable chestnuts of Scotland, it would be out of place to refer to the well-known and gigantic specimen trees of this species to be found at the present day in Italy, Naples, and on the Apennines. The chestnuts of Mount Etna have already passed into a household word for their colossal proportions and magnificence even in decay. The famous Castagno di Cento Cavalli girths, at a few feet from the ground, 180 feet, and its companion tree, Castagno di Santa Agata, upwards of 70 feet. From these and other well-known chestnut trees in Italy, Spain, and Southern Europe, but most probably from such well-known and world-wide renowned trees as have been named, have many, if not almost all of the old and remarkable Spanish chestnuts in Scotland sprung. In monastic times the monk was the chief gardener and arboriculturalist; and in his frequent pilgrimages to holy shrines did not fail to carry back with him, to his less hospitable climate of Britain, seeds and plants as mementoes of trees held almost sacred in the sunnier lands of the South. It is a remarkable fact that at almost every old abbey-ruin, or site of any religious house of Scotland, are there to be found several Spanish chestnut trees, whose well-selected sites and chosen exposures evince the favour in which they were held, and betray the desire of the old monk probably to acclimatize, if possible, under his own personal care and nurture, the seeds of some well-known tree of his boyhood, gathered by his own hands, and carefully preserved during his pilgrimage to his new home. It does not appear that the Spanish chestnut was generally planted as a timber-producing tree in Britain during the Middle Ages, although in some localities, and notably in church lands or surrounding feudal and baronial castles, it seems to have been more generally introduced. In the

English Flora it is said to be "found" (indigenous) "in the woods in the south and west of England." This may, however, well be doubted; although, perhaps, straggling specimens may be found here and there in the woods planted by the hand of man.

In an old tract published in 1612, entitled "An Old Thrift newly Revived," the author remarks that "when you first begin to plant it, a chestnut tree will growe more in one yeare, than an oake will doe in two in England;" and Tusser, writing so early as 1512, enumerates chestnuts as "fruit" trees to be planted at a particular period of the year; and further, the author of "Old Thrift Revived" also strongly advises the planting of chestnuts as "a kinde of timber tree, of which fewe growe in England." From these and similar references to the chestnut by early writers, we may infer that it was not very largely represented in the Sylva of Britain prior to the beginning of the seventeenth century; but however this may have been—if it ever was indigenous, and extensively spread over the country in early ages—it appears to have fallen out of notice and repute, until about the beginning of the last century, when we find that the Society of Arts revived the idea (which had been even in the time of Henry VIII. strongly entertained), that most of the roofing, ceilings, floor-joistings, and panelling of many of the old churches and ancient buildings, was composed of Spanish chestnut wood, and offered rewards for the more extensive planting of the tree in Britain, considering its timber for constructive purposes to be superior to that of the oak. Doubtless, in the timbers of these old buildings there must have been some confusion, for the oak and chestnut, after being some time in use, come to resemble one another very closely both in colour and grain; and there seems to be little room for doubt—from the numerous discussions which have taken place on the subject—whether Spanish chestnut wood ever was extensively used in constructive purposes in many old buildings, where it is alleged to have been found, that the wood of the indigenous oak (*Quercus sessiliflora*) has frequently been mistaken for that of the Spanish chestnut. So closely do these two woods resemble each other that Marshall states that "Chestnut has sometimes been sent into the king's dock, and passed off instead of oak;" and again he says, "the timber and bark of old chestnut trees are so very like oak as might easily deceive an indifferent observer." This action of the Society of Arts, however, led to a resuscitation of the planting of the *C. vesca* in the country; and many noble specimens in a healthy thriving condition at the present day were doubtless the offspring of these endeavours of the early part of the eighteenth century. The older patriarchs to be found in individual trees surrounding the ruins of hoary abbey walls and mouldering piles, or situated on "holy isle" or by quiet sequestered "holy well,"

were probably the early pioneer trees introduced into this country by the monks of the Middle Ages, and their ages may generally be determined by the date and era of the religious houses around which they still flourish, in some cases in pristine luxuriance, while the monks who introduced them and fostered them with care, are themselves banished from the land, and their hierarchy—sad contrast—levelled in the dust.

Since its introduction into this country, the Spanish chestnut (*C. vesca*) has proved itself in many ways, in different sites, and soils, and exposures, as a very suitable tree for the climate of Britain. It is impossible for any one who looks calmly at the facts as they exist, to agree with Loudon who, in his most laborious and incomparable work, the "Arboretum et Fruitescetum Britannicum" (vol. iii. p. 1984), states "that the Spanish chestnut never attains a height or diameter of head equal to the British oak;" and it "differs," says he, "essentially from that tree in its timber not increasing in value as it increases in age." Probably the latter statement of Loudon is true; because, forming its heartwood so rapidly as the chestnut does, it begins sooner to decay in the centre, and is likewise very apt to "star" and "ringshake" when of large dimensions; but that it does not equal the oak in height and spread of branches is inconsistent with many of the examples of old chestnuts we are able to give in this paper. This tendency to "ringshaking," or separation and decay of the internal layers, necessitates the tree being felled at a comparatively early age to obtain timber of value. The tree should be cut about fifty years of age, when it will still be found unaffected, and the wood is useful even at a much earlier age for constructive purposes. When cut as thinnings from woods it is useful for gate and other posts, railings, spars, roofing, and for piles for river banks, and many other purposes, for which wood of no great size is adapted, and it is quite as durable as any home-grown timber, while it is superior to most varieties generally used. As underwood, the stools from felled trees rapidly shoot up, and form a valuable coppice crop, which in many districts is very remunerative from their rapid growth and use as hop-poles and for fishing nets.

In mixed plantations, where oak is destined to be the ultimate crop, Spanish chestnut is a valuable tree to plant largely, for, independently of the value of young chestnut trees at an early age for so many purposes, rendering them useful as a profitable intermediate crop, its stiff, erect, and unbending character of habit, with tapering head, void of dense ramifications, combine to make this tree a very suitable companion, and one least of all calculated to intrude upon and choke or injure young oaks by being planted amongst them.

The Spanish chestnut furnishes very good charcoal, but is

second to the oak in this respect. It is, however, largely used in Spain and Southern Europe as charcoal for forge purposes, for which it is generally considered superior to that obtained from any other description of wood. The fruit of the Spanish chestnut, as is well known, is valuable in southern countries as an article of food, and as such it is variously used.

The soil in which the Spanish chestnut has been proved to succeed best in this country is a sandy loam, of good medium quality and depth. In rich heavy soils, the wood is apt, as it were, to outgrow its age, and becomes soon "deceitfully brittle" and useless. It will succeed in clayey loam if there be sufficient drainage to prevent the soil being too tenacious of moisture; and it is found of very large size frequently on trap rock, and red sandstone formations, even where there is comparatively little depth of superincumbent soil. In thin and gravelly soil it attains a great age, and frequently develops an immense girth of trunk, but does not, in such sites, present that noble bole and majestic front we see it possess in better soils, but retains the appearance of having been early pollarded.

As an ornamental park tree it is unrivalled, even by the oak or sycamore. Sir Thomas Dick Lauder, no mean authority either in æsthetics in art or nature, or on matters of arboricultural interest, and one whose opinion is valuable, highly eulogised the Spanish chestnut, and remarks that "it is perhaps the noblest tree in our British Sylva." Selby, also, whose love of trees in landscape effect and woodland adornment is well known, writes of the chestnut—"In all our park and woodland ornamental scenery, whether as a single tree, it is intended to stand prominently forward in all its individual beauty and magnificence, or in combination with other denizens of the forest, to give additional effect by the contrast and tufting of its rich and splendid foliage, and the outline of its form, the Spanish chestnut ought to be freely introduced, and with a more liberal hand than appears hitherto to have prevailed. Profit on such occasions ought never to be considered, and it is the eye and taste alone that are to be consulted." But notwithstanding his indirect allusion to the scarcity in this country of the Spanish chestnut, and his desire for its more general introduction, Selby refers to several old and remarkable instances of its occurrence in Scotland. "It is found," says he, quoting the words of Sir T. Dick Lauder, "near all the old aristocratical residences of that country." He notices the chestnut at Riccarton, near Edinburgh, and mentions that its trunk measured upwards of 27 feet in circumference. This statement was written in 1842, and we have pleasure in the catalogue appended to this paper in giving later data regarding this tree, and its subsequent history and details of growth. The celebrated Finhaven chestnut is also noticed by Selby, "and was," he

says, "also of an uncommon bulk, and long accounted the largest tree in Scotland." This famous tree, which has now ceased to exist, is noticed by Dr Walker, in his catalogue of old and remarkable trees already referred to. In noticing it he says—"The great chestnut, which stood at Finhaven in Forfarshire, was long accounted the largest tree in Scotland. In the year 1760, a great part of the trunk of this remarkable tree and some of its branches remained. The measures of this tree were taken before two justices of the peace in the year 1744. By an attested copy of this measurement it appeared at that time that at half a foot above the ground it was 42 feet 8½ inches. As this chestnut appears from its dimensions to have been planted about five hundred years ago" (Walker wrote in 1812); "it may be presumed to be the oldest planted tree that is extant or that we have any account of in Scotland." \*

So venerable a trunk in our northern climate compares favourably with the famous Tortworth chestnut in Gloucestershire, which is generally supposed to have been planted in the time of the Roman occupation of Britain, and which certainly in the reign of King John was known as a landmark or boundary tree, and which in the reign of Stephen was so remarkable for its size and dimensions as to be familiarly called in charters of that period, "the Great Chestnut of Tortworth." Bradley, in his "Philosophical Account of the Works of Nature," written in 1739, states that the Tortworth chestnut then measured 51 feet in circumference 6 feet above ground. In the "Bath Memoirs" of 1780, it is stated that in the year 1759 a chestnut in Lord Ducie's garden at Tortworth in Gloucestershire measured 46 feet 6 inches, 6 feet high. How to reconcile the discrepancy between these two recorded measurements of what is evidently the same tree, it is difficult to say, but we must proceed upon the assumption that in the smaller recorded girth, though at a period of twenty years later, more care was taken to avoid "burrs" or excrescences, which so frequently occur in the Spanish chestnut near the conoidal base of the trunk; although it is quite possible that with a decaying trunk twenty years' interval may have caused

\* From information kindly furnished by Colonel Gardyne of Finavon, we learn that this celebrated tree was dead, and cut down during the time of Laird James C. Gardyne, about twenty years ago. He had some furniture made of so much of the wood as was good. An old print of the tree, dated 1745, still exists in Finavon House, representing only a part of the tree as alive at that time. The following inscription appears on this print:—"The Chestnut tree in the Park of Finhaven, in the county of Forfar. The dimensions of the tree as measured by two justices of the peace, are—The circumference of the smallest grain is 13 feet 2½ inches. The circumference of the largest grain is 23 feet 9 inches. The circumference of the smallest part of the trunk is 30 feet 7 inches. The circumference of the top of the trunk where the grains branch out is 35 feet 9 inches. The circumference of the root end of the trunk, half a foot above the ground, is 42 feet 8½ inches.—At Finhaven, April 20, 1745." Until lately the name of the place was spelt Finhaven, but was always pronounced locally Finavon, and on inquiry, Colonel Gardyne found that in 1715 the name was spelt Finavon, which is the correct manner.

considerable falling off in the actual girth, through fissures and gaps in the side of the stem caused by weather or other agencies.

This celebrated tree still exists, although its size diminishes by the decay of its trunk, but fresh shoots still continue to be thrown out, notwithstanding that the centre is all hollow and open. Its measurements were carefully taken for this paper on 31st August 1877, and on that day at 1 foot from the ground it girthed 45 feet 9 inches, and at 5 feet its circumference was 47 feet 9 inches, and its estimated height was then 40 feet. This is unquestionably one of the most remarkable and interesting trees in Britain, and may safely be pronounced to be the oldest planted tree extant, or that we have any account of in England. It is worthy to be ranked with the Darlydale yew or the well-known Fortingal yew, both of which still survive, although the latter, from the numerous fresh shoots which have sprouted from the shell, has lost much of its original colossal proportions, and presents rather the appearance of what might have been the remains of several yews grouped together,—an idea, however, which a careful scrutiny of its interesting remains quite dispels.

In the "Edinburgh Antiquarian Magazine," vol. i. p. 23, in a list of measurements of old trees, we find that a famous chestnut growing in the Cherry Park at Inveraray Castle, Argyllshire, girthed—in 1794—12 feet 6 inches, and had a stem of 18 feet in length. In 1862 the same tree, from the Society's returns, measured 80 feet in height, and girthed, at 3 feet from ground, 19 feet; and measured on 24th August 1878, we find it is, at 1 foot from ground, 24 feet 2 inches; and at 5 feet, 19 feet 4 inches. These last two occasions of measuring the tree were taken by the same hand. The soil is black earth, on a sandy subsoil with an easterly and south-easterly exposure. The tree is quite healthy, and appears perfectly vigorous.

Dr Walker in 1812 cites the Spanish chestnut at "Newbottle" (*sic*) in Mid-Lothian, being "the tree of this kind that stands nearest the house;"—"it has still," he says, "the appearance of a young vigorous tree," and on the 6th July 1789 measured at three feet from the ground 11 feet 9 inches. This tree is also noticed in the Highland and Agricultural Society's record of old and remarkable trees, from information collected in or about the year 1861, and it is there stated to be 70 feet in height, girth 17 feet,—the first 15 feet of trunk containing 270 cubic feet, and growing in a light sandy soil, with gravelly subsoil, and a south-western exposure. From measurements taken of this tree, through the kindness of the Marquis of Lothian, on 24th August 1877, we find that it then girthed at 1 foot from the ground 26 feet 3 inches; at 3 feet, 19 feet; at 4 feet, 17 feet 10 inches; and at 5 feet its circumference was 17 feet 4 inches.

Another chestnut at Newbattle, measured on the same day,



was found to be at 1 foot from the ground, 27 feet in girth, and at 5 feet up, it measured 17 feet. This tree grows in the "Lime Tree Walk." Dr Walker makes no mention of it.

The planting of the Spanish chestnut as a memorial tree in many districts seems to have been a custom coeval with its introduction. Whether the practice of the monks in planting the seeds brought or sent home from Eastern pilgrimages induced the lordly barons and feudal knights to follow such an example in introducing this tree around their ancestral dwellings, is now uncertain; but from the peculiar names given to groups of the Spanish chestnuts planted as memorial trees upon old estates, and from the traditions attaching to these, long in the possession of the present families, we may gather that the Spanish chestnut tree was peculiarly sought after and chosen to be planted, to commemorate family incidents and historical events. We have thus in many places, "Adam and Eve," the "Three Sisters," the "Three Graces,"—the "Old Laird," the "Seven Sisters," "The Friars' Tree," "The Gospel Tree," &c., &c., whose origins are all identified with particular incidents in the histories of the families on whose estates they now luxuriate, or linger on in waning majesty. As an example, we may recite the history of the famous "Three Sisters," well known throughout the length and breadth of Wales, and we do so the more readily, as we are able from personal inquiry to give the exact measurements of these three magnificent trees at the present day. They stand close to the town of Bachymbyd, in North Wales, midway between Ruthin and Denbigh; the girth of the largest is, at 1 foot from the ground, 36 feet 6 inches; and at 5 feet, 34 feet 6 inches. Having received this information, we anxiously desired further details of these famous "three sisters," and by the kind courtesy of Mr Cornwallis West, of Ruthin Castle, North Wales, the following interesting details regarding these early specimens of Spanish chestnut in this country were obtained. "The Three Sisters" are fine noble trees (25th April 1878), about 70 feet in height, with gigantic branches spreading over a mean area for 80 or 90 feet. Some of the branches are decaying, but others look fine and healthy, and bear fruit. Over the front door of the adjoining mansion of Bachymbyd is a square slab, bearing date 1666. It appears that three sisters of the name of Salisbury lived at Bachymbyd about that time, the daughters of Sir William Salisbury, and descended from a very ancient Welsh family. One of the sisters married a Sir William Bagot, of whom the present Lord Bagot of Blithfield is a descendant, and before the separation which this marriage occasioned, the happy trio planted each a "Spanish chestnut sapling," in token of mutual affection and sisterly union, and the result is that these tender "saplings" have now grown into three time-worn trees, of the following circumstances, taken at 7 feet from the base of the trunk :—

No. 1. Next the turnpike road, 23 feet 8 inches.

No. 2. The centre tree, 35 feet 4 inches.

No. 3. Nearest the mansion, 28 feet.

The soil is fine, rich, loamy, and stiffish, upon a subsoil of blue shaley gravelly stone.

One of the largest Spanish chestnuts in the north of Scotland is, we believe, at Castle Leod, near Strathpeffer (Ross-shire); but unfortunately we have not yet been able to secure accurate details of its present measurements and condition, but in 1875 it girthed 26 feet 4 inches at 3 feet from the ground.\* In the southern counties of Scotland fine old specimens are to be seen at Terregles and Saint Mary's Isle, and in other parts of Dumfries and Kirkcudbrightshire.

From information kindly afforded by Mr Maxwell Witham of Kirkconnell, New Abbey, Dumfriesshire, we are able to give exact data as to age and present measurements of some fine old Spanish chestnuts growing on that estate. Under date 8th May 1878, Mr Maxwell Witham writes—"We have in the policies here, close to the house, some fine Spanish chestnuts. The seed was sent over from Spain, either by the grandfather of Mr Maxwell Witham, or by his friend and fellow-Jacobite, Sir Edward Gascoigne, between 1746 and 1748." The gentleman referred to, James Maxwell of Kirkconnell, took an active part in the rebellion of 1745, and became an officer in the Pretender's service, and as such, "an eye-witness of the greatest part of what happened in the field." After Culloden, he escaped to France, and while residing at St Germain's for three years after 1745, he drew up a "Narrative of Charles, Prince of Wales' Expedition to Scotland in the year 1745" (*vide* Maitland Club); and in 1750 he ventured to return to Scotland. It was during his absence at St Germain's that the chestnuts referred to were sent over, either by himself, or by Sir Edward Gascoigne, from Spain, as a letter extant in the family clearly shows; and the following are now the dimensions of those trees, taken in May 1878, for the purpose of this paper:—

Tree.	Height.	Girth at 1 Foot.		Girth at 5 Feet from Ground.		Length of Bole.
	Feet.	Ft.	In.	Ft.	In.	
No. 1	60	10	0	8	7	25 feet.
" 2	40	21	0	16	0	
" 3	70	17	0	12	0	
" 4	70	15	6½	12	3	
" 5	60	13	11	11	1	
" 6	75	17	6	14	6	

\* Since this article was written we have ascertained the dimensions of this tree to have been in January 1879—22½ feet girth at 1 foot, and 19½ feet at 5 feet, from ground.—R. H.

These trees are all in perfect health, and every five or seven years produce fair crops of chestnuts, when there is a very hot summer after a fine spring. The soil is a sandy loam, on sandy and gravelly subsoil. The date of their having been raised from seed being so well determined, a very good illustration is afforded by this case of the rapid progress with which the Spanish chestnut develops timber in suitable localities in such a climate as that of Scotland.

Having thus noticed some of the more remarkable Spanish chestnuts in the northern and southern counties of Scotland, while many more in these parts still remain to be described, and for the details of which we can only, consistently with the length of this memoir, refer the reader to the statistical tables appended to it, we should be doing injustice to the great tree-growing central county of Scotland—Perthshire—did we fail to notice some of the more remarkable chestnuts, which are to be found in luxuriance there. We may say of the forest trees of Perthshire generally, that whether owing to the configuration of the county, and its inland position lending a more *continental* and less *insular* quality and value to its climate, there can be no doubt that they exhibit greater vitality and more rapid and better progress within a given period than the hard-wood trees of any other county in Scotland as a whole. We may take the trees of Castle-Menzies, near Aberfeldy, as the representative trees of the county, as indeed they are of Scotland; for nowhere will so many majestic monarchs of the wood be found unsurpassed in dimensions or in health and beauty, by any other collection in the country. Confining ourselves to the Spanish chestnuts alone (although we might almost be pardoned for quoting instances of the most splendid types of other trees at Castle-Menzies in this paper), we find one grand old tree situated in the washing-green behind the castle, of the following dimensions:—

At 6 inches from the ground, 26 feet 6 inches; at 2 feet, 22 feet 2 inches; at 5 feet, 19 feet 2 inches; at 7 feet, 18 feet 4 inches: 60 feet in height, and with a bole of about 12 feet. This tree is much decayed, however, and evidently in declining health. At about 12 feet from the ground it separates into two very large limbs, each of which is the size and girth of many an ordinary well-developed tree in Scotland. The date on the present castle is 1571, but an older building existed on the same site, and from the whole appearance of this tree and its situation, it may probably be referred for its origin to a period coeval with the older building, or at all events to have been planted prior to the existence of the present castle. Another Spanish chestnut at the foot of Weem rock, and behind the garden, girths 19 feet 2 inches at 2 feet from the ground, and 15 feet 10 inches, at 5 feet. It is about 80 feet high, and has a good

bole of about 20 feet. Its one side from the ground upwards, and the entire length of the bole, is beautifully covered with a profusion of growth of the pretty fern (*Lycopodium vulgare*), which lends an additional charm to the hoary massive trunk of this veteran specimen. The altitude of Castle-Menzies is 250 feet above sea-level. The soil is a light sandy loam, and at a depth of one foot pure sand and gravel are reached. It should be mentioned that this last tree was measured, and is recorded in the list of trees taken in 1862, and was then said to be 74 feet in height, and 13 feet 10 inches in girth, at 6 feet from the ground. It did not then appear "to be increasing much" in timber, and "several large branches had been cut off." At Gask, Perthshire, there are several very splendid Spanish chestnuts. These were recorded in the Highland Society's Catalogue of 1862, and were then stated to be "six trees in a healthy condition; heights, four 50 feet, and two 60 feet; girths, 13½, 14, 15, 16, 18 feet 5 inches, and 18 feet 8 inches respectively. Age, 200 years; soil, red clay; altitude, 300 feet; exposure southern, and no marks of pruning." The dimensions of the three largest trees taken on 8th April 1878 are—

No. 1. Near the Chapel, a splendid tree, height 70 feet, girth at 1 foot, 18 feet; girth at 3 feet, 16 feet; girth at 5 feet, 14 feet 6 inches. Height of bole, 22 feet clear.

No. 2. In avenue west of house; girth at 1 foot, 19 feet; girth at 5 feet, 17 feet 2 inches. A short tree as regards bole, with huge limbs requiring propping.

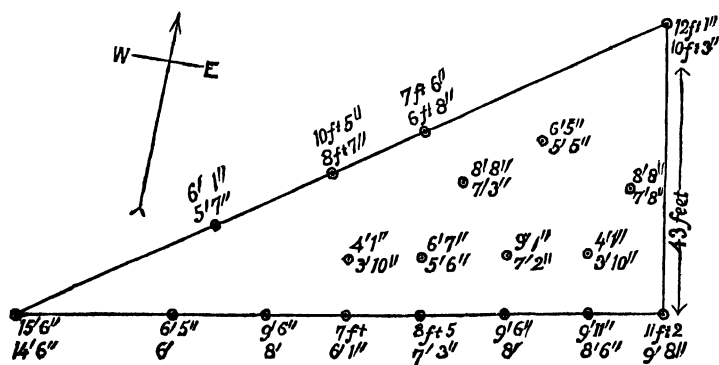
No. 3. Girth at 1 foot, 16 feet; girth at 5 feet, 12 feet 10 inches.

It will be seen that it is impossible accurately to identify these three with any of those previously given, from the vagueness of the previous census and catalogue, which is much to be regretted.

Dr Walker mentions, in 1789, some very large chestnut trees at Lord Gray's house at Kinfauns, in Perthshire; he does not, however, give any details regarding them, beyond the statement that the largest of them had been cut down in October 1760, and measured 22 feet 8 inches in circumference. This tree, he adds, was supposed by the proprietor to be above 200 years old. All the branches had leaves and fruit upon them the year it was cut, though the trunk was found entirely decayed. One of these trees still exists at Kinfauns, and appears healthy, though it has been a good deal damaged during late years, having lost two of its limbs from high winds. It grows below the castle, and is covered with ivy; the soil is a light loam, and the subsoil a gravelly clay. The altitude of the site is about 100 feet above sea-level. It measured in October 1877,—17 feet, at 1 foot from the ground, 15 feet, at 5 feet, and 13 feet 6 inches, at 15 feet

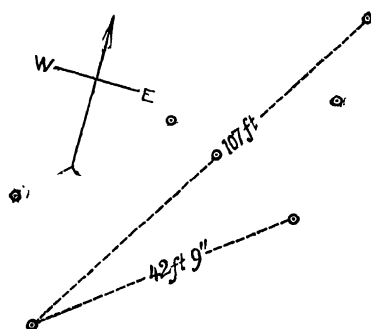
from the base. Its height is 75 feet. Another fine Spanish chestnut exists at Dunbarney, near Perth. It is now (October 1878) 20 feet 5 inches in girth, at 1 foot from the ground, and 16 feet at 5 feet from base. It is 40 feet high, and has a spread of branches 55 feet in diameter. It appears to be in perfect vigour, and to be still forming wood. Measured in 1862, when it was stated to be "recovering its vigour," it girthed at 5 feet only 14 feet. The soil is blackish loam with a clay subsoil, and a southern exposure. It has thus grown 2 feet in girth in 16 years, or an average of  $1\frac{1}{2}$  inch per annum.

A very fine group of Spanish chestnuts may be seen at Strathallan. The large tree in the foreground of the group, and which is the most important, measures as follows:—At 1 foot from the ground, 15 feet 6 inches in circumference; and at five feet, it is 14 feet 6 inches in girth, with a bole of nearly 40 feet, and a total height of 70 feet. The ground on which this beautiful group is growing forms a triangle, the sides of which are 107 feet, 43 feet, and 99 feet long respectively. The site is level, the soil a dark loam, about 2 feet in depth, and the subsoil is a very hard and retentive till. The altitude is about 150 feet above sea-level. Whether the triangular form in which the group had been originally planted has any meaning or not, does not now appear; but it is a remarkable circumstance, and one corroborated by similar arrangements of groups of trees in other localities, and in the southern counties of England, so that from whatever point of view one looks at the group or its individual members in walking round it, a triangle is presented. The accompanying diagram of the ground



and relative positions of the trees is instructive, and may be full of interest and inquiry for the archæologist. It will be observed

that the triangles are numerous and varied—equilateral, obtuse, and acute angled, scalene, &c. &c. To each tree we have noticed the girth at 1 and 5 feet respectively, so that the identity in future measurements for comparison may be preserved. There is a space of 107 feet from the east to west trees along the base of the triangle. A similar coincidence of trees being planted to present a triangular arrangement from any point of view the group is seen from, exists in the case of “the sacred seven” elms, or “the seven sisters,” as they are also called, near Rochester. They are said by tradition to have been intentionally so planted by seven sisters; but why, is not now stated. They are not far from, and they are within sight of, Rochester cathedral and castle. The accompanying diagram gives the relative positions of “the seven



sisters” as taken on 23d October 1878. It is somewhat remarkable that in both cases the distances between the eastmost and southmost trees in each group is identical, while the extreme limit between the two most distant trees in the group also corresponds.

Strikingly beautiful and picturesque examples of the Spanish chestnut also exist at Culross Abbey, where two old hoary veterans remain to represent the former glories of the monastery; also at Balmerino Abbey, Newport, Fife, a fine old gnarled trunk remains. Regarding this tree several measurements are on record, and serve to show its progress gradually towards decay. In 1793 its trunk measured, at 3 feet from the ground, 15 feet, and was said to be in a healthy condition. In the returns collected in 1861 or 1862, it is reported as being then 16 feet in girth at 3 feet from the ground, and some decayed parts of the trunk were covered with zinc plates and plaster to exclude the atmosphere. The length of bole is only 5 feet, and the height of the entire tree is 50 feet; soil light, and subsoil gravelly. Altitude above sea-level, from 40 to 50 feet, and northern exposure. The present girth of this tree is now, immediately above the conoidal base of roots, 20 feet; at 2 feet above the ground it is 19

feet. At 3 feet from the ground the branches begin to widen out from the trunk before parting, so that any measurement taken higher up would be deceptive. The tree still appears vigorous in its old age, though long ago it seems to have lost one or two large limbs, and the scars thereby produced are carefully filled up with plaster. Nothing is known of the exact age of this tree, the number of centuries attributed to it varying with the degree of veneration with which different visitors regard it. Another Spanish chestnut also existed in the neighbourhood of the ruins of this venerable abbey, somewhat further south than the site of the one just described, and although much smaller, apparently of about the same age and antiquity.

On the island of Inchmahome, on the lake of Monteith in Stirlingshire, near the ruins of the old priory, there are some fine old Spanish chestnuts still growing in vigour; while several felled specimens may be seen of immense size, and whose bark-stripped trunks and hollow butts serve as fireplaces for the pic-nics of tourists. These large trunks were said to have been felled many years ago, but were allowed to lie on the island to decay, as the value of the timber was not considered likely to repay the cost of transport and removal. Were these decaying trunks cut fresh across, so that the annular rings might be carefully counted, the age of the survivors might be ascertained, and an approximation made to the age of the Balmerino, Culross, and other abbey trees. There is now the probability that this will be done, for, by the kind permission of His Grace the Duke of Montrose, who is the proprietor of Inchmahome, Sir Robert Christison has undertaken to have sectional diagrams of the rings made for the investigation. There has evidently been a line of large walnut trees and Spanish chestnuts extending across the garden ground at the western gable of the priory. Many other curious old trees, such as box-tree, 20 feet high, and 3 feet in girth; oak, ash, thorn, hazel, walnut and sycamore of great size, are also growing on this island, but are in a very neglected condition, and deserve more respect, on account of their venerable and historical antiquity. The following are the measurements of these Inchmahome Spanish chestnuts, made in 1876:—

Immediately outside of and to the left of western gateway of priory, and forming the companion "sentinel" tree of gateway to a fine old walnut, is No. 1, 85 feet in height,—19 feet 10 inches at 1 foot, 16 feet 10 inches at 3 feet, and 16 feet 6 inches at 6 feet from the ground. This tree has a good bole, but is decaying; its principal limb at 30 feet from the ground has been recently torn away by the gales.

No. 2, to the south-west of No. 1, is 70 feet high,—15 feet 10 inches at 1 foot, 14 feet 9 inches at 3 feet, and 14 feet 2 inches at 6 feet from the ground. This tree is also decaying, and

"oozing" a little near the root, but appears rather more vigorous in health than No. 1.

No. 3, to the south of No. 2, is a picturesque tree. Its top is quite gone, and evidently has been long ago destroyed. The remaining branches are all "stag-headed," and the tree is much decayed. It girths 19 feet at 1 foot, 16 feet 7 inches at 3 feet, and 18 feet 6 inches at 6 feet from the ground. The bole has been quite short, as it branches off about 9 feet from the base into huge limbs which are themselves the size of goodly trees.

Other excellent specimens of old and remarkable Spanish chestnuts in the midland districts of Scotland are found at Hopetoun, and Newliston (Linlithgowshire); Tillicoultry, and Tullibody (Clackmannan), where there are also other descriptions of old trees of immense size; at Airth and Dunipace (Stirlingshire), and other localities which need not be multiplied, as reference to the catalogue appended to this paper will give fuller details.

We should not, however, before concluding this paper, omit to notice the many fine examples of Spanish chestnuts which abound in East Lothian and Berwickshire, and along the sea coast in that direction. Indeed, they appear to be more numerous and vigorous in Haddingtonshire than in any other county of Scotland. Fine specimens exist at Tynninghame, Broxmouth, Pressmennan, while at Yester there are two trees of unsurpassed beauty and colossal proportions. It so happened that when obtaining the dimensions of these trees in September 1878, a recent gale had punished them a good deal, and the foresters had to climb them to remove the broken branches. The measurements then taken at various points are therefore strictly accurate, and are as follows:—

No. 1. At ground, girths 19 feet 8 inches; at 5 feet from ground, 16 feet 2 inches; at 12 feet, 14 feet 2 inches; at 28 feet, 12 feet 6 inches; at 41 feet, 11 feet 6 inches. Length of bole, 41 feet, and total height of tree, 87 feet.

No. 2. At ground, girths 18 feet; at 5 feet from ground, 13 feet; at 12 feet, 13 feet; at 33 feet, 9 feet. Length of bole, 49 feet, and total height of tree, 83 feet.

There is quite a wealth of magnificent Spanish chestnuts growing in the *dene* at Dunglass, on the borders of Berwickshire and Haddingtonshire, as reference to our statistics will show. At Marchmont (Berwickshire) also, there is a fine clump of eighteen old trees of rare beauty and grandeur. They seem for the most part healthy and vigorous, though in several instances they are evincing symptoms of incipient decay.

The salubrious climate and soil near Arrochar, on Loch Long and Loch Lomond, and at other places on the shores of the west of Scotland, is very favourable to the rapid growth of trees



generally, and many fine Spanish chestnuts are found in these districts. At Ardgarten, near Arrochar, there is a tree very remarkable for its stateliness and girth of trunk. It grows on the delta of the river Cree. In 1867 it was carefully measured by Sir Robert Christison, and the trunk then measured 20 feet in girth at 5 feet from the ground, and "the eye could not observe a narrower part between that and fifteen or sixteen feet higher, where the branches first divide." Examined again by Sir Robert on 6th August 1877, he writes—"It has lost its stately appearance and shapeliness owing to the loss of some large upper branches by the fury of the gales of late years. Otherwise its foliage represents healthiness. At 5 feet the trunk measures 20 feet 8 inches in girth, at 6 feet it measures exactly 20 feet, and between that point and its branching there is no appreciable narrower part. It may, therefore, well be supposed that this trunk is a magnificent object. It is the largest chestnut-trunk I have yet seen noticed as growing anywhere in Scotland. Nevertheless it is not mentioned in the Highland Society's list of 1862, or anywhere else, so far as my inquiries go." The delta of the Cree is a perfect flat, about half a mile long and as much wide, formed abruptly at the base of a steep mountain slope, by the detritus of the Cree from a mica-slate valley. The soil looks fine and crumbly, and cannot want for argillaceous matter from the mica-slate. The climate, as is well known, is mild and rainy. Mr Dewar, minister of the parish, keeps the rain-gauge for the Meteorological Society. The fall in 1876 was 81 inches, and to the end of July in 1877 it was 55 inches, against 42 for the same period of the previous year. Both soil and moisture, therefore, are favourable for the growth both of timber trees and evergreen shrubs. This tree is therefore probably not so old as it looks, an opinion, perhaps, corroborated by the fact that Dr Carlyle of Inveresk, who records in his diary that he paid a visit to the district, does not mention its existence; but at the same time it should be remembered that he generally took more note of the claret than of the scenery in his travels!

In the parish of Eastwood, near Pollokshaws, Renfrew, there are some fine old and very large timber trees, which have been preserved in record by the present parish minister, Mr Campbell. These were collected in 1862, but do not appear to have been published. Amongst them we find the dimensions and particulars of one very fine Spanish chestnut tree, which is still flourishing in the garden at Auldhouse, the property of the late Sir William Stirling Maxwell, Bart. of Polloc and Keir. By Mr Campbell's kindness we are enabled to give some details showing its progress since 1836. This information owes its value to the late Sir John Maxwell, Bart. of Polloc, whose interest in his trees led him to make measurements of them, which in some cases

extended over a period of fifty years, and whose intimacy with and congenial taste in tree-culture, led Strutt to dedicate his "*Sylva Britannica*" to him. The Spanish chestnut referred to measured as follows:—

Year.	Girth at 1 Foot.		Girth at 5 Feet.		Height.	Soil.	Subsoil.
	Ft.	In.	Ft.	In.			
1836	...	...	11	10	about 45 ft.	{ Deep garden loam. }	{ Sand-stone. }
1858	16	4	13	10	" 55 "		
1862	16	10	14	0	" 56 "		
1877	20	0	15	6	" 60 "		

The altitude above sea-level is about 100 to 120 feet. In the same garden stands another fine Spanish chestnut, but not quite so large. It girthed in 1877, 21 feet round the base, and 14 feet at 5 feet from the ground. These trees may probably have been reared from foreign seeds, brought home by the monks connected with the adjoining Paisley Abbey, and of whose possessions Auldhouse was a part, and where they had a *cenobitium* or cell. The position of the two trees is exactly due north and south, and it is quite possible that they were so planted as to form a daily index of the polar star's position. With such a conjecture we close this paper, and can fancy this picture of the past: the old hooded monk dropping with careful hand the seeds of these two trees into the ground, which are destined to show grandeur and vigour when his abbey and his hierarchy have been swept away and become things of the past, and he himself, "the grand old gardener," sleeps soundly beneath the stones of the neighbouring ruined cloister cell.

## APPENDIX No. I.—DESCRIPTION OF THE

County.	Place.	Altitude above Sea-Level.	Soil.	Subsoil.	Exposure of Site.
		Ft. in.			
Ross, . .	Strathpeffer, . .	80 0	Black sandy loam,	Sand and clay, .	N.E.
Moray, . .	Brodie Castle, . .	" "	" "	" "	"
" "	" "	" "	" "	" "	"
Forfar, . .	Kinnaird, . .	25 0	Good loam, . .	Gravel, . . .	Open,
" "	" "	" "	" "	" "	"
" "	" "	" "	" "	" "	"
" "	" "	70 0	" "	" "	"
" "	" "	70 0	" "	" "	"
Perth, . .	Kinfauns Castle, . .	100 0	Light black loam, .	{ Sandy and gra- velly clay, }	S.
" "	Abercainey, . .	100 0	Medium loam, . .	Loamy clay, . .	"
" "	Taymouth Castle, . .	380 0	Sandy loam, . .	Gravel and sand, .	"
" "	" "	" "	" "	" "	"
" "	" "	" "	" "	" "	"
" "	Murthly Castle, . .	180 0	Light sandy, . .	Deep gravelly, . .	Sheltered,
" "	" "	" "	" "	" "	"
" "	Dunbarney, . .	" "	Blackish loam, . .	Clay, . . .	S.
" "	Strathallan, . .	150 0	Dark loam, . .	Retentive hard till,	Sheltered,
" "	" "	" "	" "	" "	"
" "	" "	" "	" "	" "	"
" "	" "	" "	" "	" "	"
" "	" "	" "	" "	" "	"
" "	Gask, . . .	300 0	Moorish soil, . .	{ Stiff retentive, on Old Red Sandstone, }	S.
" "	" "	" "	" "	" "	"
" "	" "	" "	" "	" "	"
" "	Castle Menzies, . .	250 0	Light sandy loam, .	{ Pure sand at 1 foot depth, }	Sheltered,
" "	" "	" "	" "	" "	S.
" "	Culross Abbey, . .	60 0	Black garden loam,	Blue clay and tilly,	"
Argyll, . .	Inveraray Castle, . .	" "	Good black loam, .	Sandy, . . .	E.S.E.
" "	Ardkinglas, . .	" "	" "	" "	"
" "	" "	" "	" "	" "	"
" "	" "	" "	" "	" "	"
" "	Ardgartan, . .	" "	Fine alluvial soil, .	Mica slate, . .	"
" "	Poltalloch, . .	55 0	Sandy loam, . .	Bog, peat, and clay,	"

SPANISH CHESTNUT (*Castanea Vesca*).

Height of Tree in Feet	Length of Bole.	Present Circumference of Trunk at			Any former recorded Measurements and Dates.			Diameter of Spread of Branches.	REMARKS.
		1 foot.	3 feet.	5 feet.	Date.	At 1 Foot.	At 3 Feet.		
Ft. in.	Ft. in.	Ft. in.	Ft. in.	Ft. in.		Ft. in.	Ft. in.	Ft. in.	
41 0	..	15 0	12 3	..	1875	26 4			{ Fine specimens resembling the oak, and mistaken for that tree by not a few. The larger trunks are twisted in the bark like a screw, and only one appears to be shaken.
61 0	..	15 1	12 2	..					
60 0	35 0	13 3	12 0	10 0					
60 0	30 0	13 0	12 0	9 6					
60 0	36 0	12 6	11 6	9 8		..	..	..	
60 0	40 0	11 6	10 4	9 6					
50 0	27 0	10 9	8 10	7 6					
45 0	9 0	13 0	12 3	12 0					
75 0	..	17 0	15 0	15 0	1862	15 0	14 0	..	{ This tree is 13 ft. 6 in. at 15 ft. from ground.
..	..	14 10	..	12 3					
..	..	..	..	14 8	..	..	12 3		{ There are twenty-five Spanish chestnuts at Taymouth very healthy. The three given are the largest girths.
..	..	..	..	15 9	..	..	12 0		
..	..	..	..	17 5	..	..	14 6		
65 0	..	..	..	17 7					
60 0	..	..	..	15 10					
40 0	..	20 5	..	16 0	..	..	14 0	55 0	Very picturesque.
70 0	35 0	15 6	..	14 6					{ These form part of, and are the largest trees in a group of nineteen Spanish chestnuts. The details of each are given in the diagram in the Report.
68 0	40 0	12 1	..	10 3					
65 0	35 0	11 2	..	9 8	..	..	..	..	
70 0	40 0	10 5	..	8 7					
70 0	40 0	9 11	..	8 6					
65 0	36 0	9 8	..	8 2					
70 0	22 0	18 8	16 6	14 6	..	18 5	14 0	..	{ A splendid tree, growing near the chapel. In avenue, west of house, and is a short tree, with huge limbs requiring propping.
35 0	..	19 0	18 3	17 2	..	18 8	18 6	..	
60 0	..	16 0	..	12 10	..	15 0	..	..	{ This tree is a good deal decayed. (Growing in washing-green.)
60 0	12 0	26 6	22 4	19 2	..	..	..	..	
80 0	20 0	19 2	..	15 11	..	..	..	..	{ In 1862, 74 ft. high, and 13 ft. 10 in. at 6 ft. up. A noble specimen.
83 0	..	18 0	..	16 9	..	..	..	..	
85 0	..	24 2	..	19 4	..	..	..	..	{ In 1862, 75 ft. high, and 16 ft. 7 in. at ground. Very vigorous, though showing signs of decay.
85 0	..	24 2	..	19 4	..	..	..	..	
35 0	..	19 0	..	17 11	..	..	..	42 0	{ In 1862, height 80 ft., 19 ft. girth at 3 ft. Appears quite vigorous. Supposed age 270 years.
90 0	..	17 3	..	15 9	..	..	..	72 0	
90 0	..	17 6	..	16 5	..	..	..	68 0	{ Very picturesque.
90 0	25 0	..	..	20 8	..	..	..	..	
70 0	..	10 0	..	8 6	..	..	..	..	{ In 1867, 20 ft. at 5 ft. from ground. A magnificent tree, with splendid bole. Very vigorous.

## DESCRIPTION OF THE

County.	Place.	Altitude above Sea-Level.	Soil.	Subsoil.	Exposure of Site.
Dumbarton,	Balloch Castle,	Ft. in. 100 0	Peaty loam, . .	Whinstone rock, .	..
Renfrew,	Auldhouse, . .	120 0	Deep garden loam,	Sandstone, . . .	S.W.
"	"	120 0	"	"	"
"	Hawkhead, . .	{ About } 100 0	{ Light loam, .	{ Clay and gravel, .	{ Sheltered,
Stirling, . .	Airth, . . . .	50 0	Medium loam,	Clay and sand, .	S.
"	Dunipace, . . .	..	{ Rather clayey, }	{ Clay, . . . .	{ "
"	"	..	"	"	"
"	{ Island of Inchma- home, Lake of Menteith, . . }	{ .. }	Good light loam, .	"	W.
"	"	..	"	"	S.W.
"	"	..	"	"	" {
Clackmannan,	Tullibody House, .	About 70 0	Clayey, . . . .	Red clay, . . .	S.
"	"	..	"	"	"
"	"	..	"	"	"
"	Tillicoultry, . .	..	Light sandy loam,	Gravelly, . . .	N. and S.
"	"	..	"	"	W. and S.
"	"	..	"	"	S.W.
"	"	..	"	"	W.
Fife, . . .	Aberdour, . . .	85 0	Light loam, . . .	{ Friable, gravelly, } near whin- stone, . . .	{ S.
"	"	100 0	"	"	"
"	"	100 0	"	"	"
"	Balmerino, . . .	{ About } 40 0	{ Light sandy soil,	Gravelly, . . .	{ N.
Lanark, . .	Dalziel House, . .	..	..	..	..
"	Camnethan, . . .	150 0	Good alluvial loam,	Clay, . . . .	S.
Linlithgow,	Duntarvie Castle, .	130 0	Good medium soil,	Clay and gravel, .	"

## SPANISH CHESTNUT—continued.

Height of Tree in Feet	Length of Bole.	Present Circumference of Trunk at			Any former recorded Measurements and Dates.			Diameter of Spread of Branches.	REMARKS.
		1 foot.	3 feet.	5 feet.	Date.	At 1 Foot.	At 3 Feet.		
Ft. in.	Ft. in.	Ft. in.	Ft. in.	Ft. in.		Ft. in.	Ft. in.	Ft. in.	
50 0	..	9 6	..	9 0	..	..	..	..	{ Many fine specimens here. Planted in 1835. Very healthy.
56 0	..	21 0	..	14 0	1862	{ 1858 16 4	{ 1862 12 10	..	{ Very healthy and vigorous.
60 0	..	22 0	..	15 0	1862	{ 1858 16 8	{ 1862 14 0	..	{ In 1836, this tree girthed 11 ft. 10 in. at 5 ft. up.
75 0	30 0	18 0	..	14 0	..	..	..	50 0	{ In a perfectly healthy con- dition.
65 0	..	16 0	..	13 3	..	..	..	..	{ On slope of a small knoll.
..	6 0	..	..	19 6	..	..	..	51 0	{ On slope of another knoll, 15 yards apart from fore- going.
..	14 0	..	..	12 3	..	..	..	50 0	{ At western gateway of old priory. Decaying.
85 0	31 0	19 10	16 10	16 6	..	..	..	..	{ Decaying and "oozing" near root, but appears more vigorous than preceding.
68 0	..	15 10	14 9	14 2	..	..	..	..	{ Much decayed, and stag- headed branches. Very picturesque.
En- tire top gone	..	19 0	16 7	18 6	..	..	..	..	{ There are other descriptions of timber trees of immense size of trunk and height at Tullibody House. These chestnuts seem quite vigorous.
	80 0	13 0	19 1	13 11	12 0	..	..	..	{ In 1862, 18 ft. 6 in. at base, and 13 ft. 9 in. at 7 ft.
	75 0	12 0	13 6	10 8	9 11	..	..	..	{ Girths at base 26 ft. 6 in., and at 7 ft. 14 ft. 11 in.
80 0	10 0	20 9	17 3	16 0	1870	..	15 0	..	{ In 1862, 18 ft. at base, and 13 ft. 10 in. at 7 ft. Girths at base 23 ft., and at 7 ft. 15 ft. 4 in.
75 0	..	22 5	..	16 0	..	..	..	72 0	{ In 1862, 15 ft. 7 in. at base, and 11 ft. 5 in. at 7 ft. Girths at base 19 ft. 9 in., and at 7 ft. 12 ft. 5 in.
65 0	..	20 1	..	16 2	..	..	..	..	{ In 1862 was 15 ft. 7 in. at base, and 11 ft. at 7 ft. Girths at base 18 ft. 7 in., and at 7 ft. 12 ft. 2 in.
70 0	..	17 7	..	12 9	..	..	..	..	{ In 1812, 9 ft. bole and 11 ft. 3 in. girth. In a very healthy condition.
75 0	..	16 7	..	12 8	..	..	..	..	{ In a very healthy condition.
66 0	10 0	16 0	..	13 0	..	..	..	66 0	{ In 1793 was said to girth 15 ft. Branches spread out at 5 ft. from ground in vigorous health. Seems to have lost one or two limbs long ago.
74 0	32 0	10 8	..	8 6	..	..	..	38 0	{ In 1862, "30 feet," no datum point given. Now girths 30 ft. at base.
70 0	22 0	11 3	..	9 8	..	..	..	40 0	{ In 1873, 23 ft. 3 in. at base, 17 ft. 9 in. at 4 ft., and 18 ft. 2 in. at 7 ft. Quite vigorous.
50 0	5 0	20 6	18 6	..	1862	..	16 0	..	
..	17 6	11 6	..	9 4	..	..	..	..	
70 0	10 0	25 0	..	22 0	..	..	..	..	
85 0	..	24 8	18 0	19 0	..	..	..	..	

## DESCRIPTION OF THE

County.	Place.	Altitude above Sea-Level.	Soil.	Subsoil.	Exposure of Site.
		Ft. in.			
Linlithgow, .	Newliston, .	{ About } 100 0	Heavy loam, . .	Inclining to till, .	W. and S.
"	"	"	"	"	"
"	Hopetoun, . .	120 0	{ Sandy loam and } mixture of	{ Retentive sub- } soil on debris	N.
Mid-Lothian, .	Oxenford Castle, .	150 0	Light loam, . .	Sandstone, . .	. .
"	Riccarton House, .	120 0	Loamy, . . .	Clay and gravel, .	. .
"	Hatton House, .	135 0	Light loam, . .	Sand and clay, . .	. .
"	Newbattle Abbey, .	150 0	Light sandy, . .	Gravel, . . .	S.W.
"	"	"	"	"	"
"	Edmonstone, .	100 0	Strong blue loam, .	{ Blaze and edge } coal seams,	S.
"	Ingliston, . .	90 0	Good loam, . .	Clay and gravel, .	N.
Roxburgh, .	Bemersyde, . .	600 0	{ Shallow thin } light soil, .	{ Red "rotten" } rock and gra- vel, . .	S.
Haddington, .	Pressmennan, .	550 0	Light red loam, .	Trap rock, . .	N.
"	"	550 0	"	"	"
"	Broxmouth Park, .	20 0	{ A very deep red } sandy loam, }	{ Granite and trap } rock, . . .	"
"	Gosford, . . .	50 0	Sandy loam, . .	Clay, . . .	N.E.
"	Tynninghame, .	50 0	Red sandy loam, .	{ Gravel and clay } on trap rock, }	"
"	"	"	"	"	"
"	"	"	"	"	"
"	"	"	"	"	"
"	"	"	"	"	"
"	Whittinghame, .	350 0	Good loam, . .	Red sandstone, .	S.
"	"	"	"	"	"
"	"	"	"	"	"
"	Gilmerton, . .	100 0	Leaf mould, . .	{ Very poor, clayey } and stony, }	"
"	Yester House, .	450 0	Strong loamy clay,	Old Red Sandstone,	"
"	"	450 0	"	"	"





## DESCRIPTION OF THE

County.	Place.	Altitude above Sea-Level.	Soil.	Subsoil.	Exposure of Site.
Berwick,	Dunglass, . .	Ft. in. 200 0	Sandy soil, . .	{ White freestone } rock, . .	S.
"	"	"	"	"	Sheltered,
"	"	"	"	"	"
"	"	"	"	"	"
"	"	"	"	"	"
"	"	"	"	"	"
"	Marchmont House,	500 0	{ Strong tenacious } red clay, . .	{ Very retentive } hard red till on a blue marly clay, . .	S. and E.
"	"	"	"	"	"
"	"	"	"	"	"
"	"	"	"	"	"
"	"	"	"	"	"
Ayr,	Eglinton Castle, .	"	Damp loam, . .	Clay and gravel, .	"
"	"	"	"	"	"
"	"	"	"	"	"
"	{ Kirkmichael (May- bole), . . . }	{ .. }	Mossy loam, .	"	S.
"	Bargany (Girvan), .	100 0	Sandy loam, . .	Gravelly, . . .	"
Dumfries,	{ Kirkconnell (New Abbey), . . }	{ .. }	Light loam, . .	Gravel and clay, .	"
"	"	"	"	"	"
"	"	"	"	"	"
"	"	"	"	"	"
"	"	"	"	"	"
"	"	"	"	"	"
"	"	"	"	"	"
Wigtown,	Lochryan, . .	{ About } 30 0	Light sandy, . .	Gravel, . . .	W.
"	"	"	"	"	"

## SPANISH CHESTNUT—continued.

Height of Tree in Feet	Length of Bole.	Present Circumference of Trunk at			Any former recorded Measurements and Dates.			Diameter of Spread of Branches.	REMARKS.				
		1 foot.	3 feet.	5 feet.	Date.	At 1 Foot.	At 3 Feet.						
Ft. in.	Ft. in.	Ft. in.	Ft. in.	Ft. in.		Ft. in.	Ft. in.	Ft. in.					
55 0	30 0	20 2	..	14 11	..	..	..	..	Grows in "the priest's garden" near the old abbey. Divides at 50 ft. into two large limbs. Each of which is the size of a good tree. Divides into two heavy limbs at 12 ft. up. Divides also into two heavy limbs. This and the other Dunglass trees are growing in the "Dene," and are measured in order from priest's garden southwards. A magnificent clean bole. A splendid tree. Stands above the house. These trees form part of a clump of eighteen Spanish chestnuts. They grow on a steep bank sloping to south; are mostly healthy, though some show signs of decay. One of the largest fell 3 years ago, and 220 annular rings were counted upon the section of its trunk.				
70 0	50 0	13 1	..	9 10	..	..	..	..					
65 0	12 0	9 2	..	8 1	..	..	..	..					
80 0	15 0	10 9	..	8 9	..	..	..	..					
60 0	30 0	12 4	..	10 10	..	..	..	..					
65 0	40 0	14 0	..	11 5	..	..	..	..					
90 0	40 0	15 0	..	12 0	..	..	..	..					
66 0	28 0	19 6	..	16 6	..	..	..	..					
70 0	12 0	16 8	..	14 0									
70 0	24 0	15 8	..	13 8									
72 0	31 0	21 0	..	15 0	..	..	..	..	In 1862, girthed 22½ ft. at base, and 15½ ft. at 6 ft. up. Now measures 25 ft. at base. Used as game larder for the family 100 years ago. A broad platform still in trunk 10 ft. up, and the branches above show traces of the erection.				
75 0	42 0	16 10	..	13 0									
102 0	32 0	18 3	..	14 6									
75 0	20 0	12 0	..	10 6									
65 0	12 0	17 0	..	13 9									
45 0	12 0	12 9	..	10 8									
40 0	..	22 0	..	17 0						..	..	..	..
45 0	..	12 10	..	12 0									
60 0	..	10 0	..	18 7									
40 0	..	21 0	..	16 0									
50 0	25 0	17 0	..	12 0									
55 0	..	15 6½	..	12 3	..	..	..	..	These trees were all planted from seed sown between 1745 and 1750. The seeds were sent from Spain by James Maxwell of Kirkconnell, or by his friend and fellow Jacobite in exile, Sir Edward Gascoigne. The letter accompanying the sending of the seeds still exists in the family of Kirkconnell. In 1862 was 23 ft. girth at base, and 14 ft. at 4 ft. up. Divides into many limbs at 10 ft. up, which are each goodly trees. Quite healthy.				
40 0	..	13 11	..	11 1									
55 0	20 0	17 6	..	14 6									
60 0	10 0	23 2	..	17 2	..	..	..	..					
45 0	..	17 8	..	14 0	..	..	..	..					

## DESCRIPTION OF THE

County.	Place.	Altitude above Sea-Level.	Soil.	Subsoil.	Exposure of Site.
Kirkcudbright	Rachills, . .	..	Gravelly soil, .	Whinstone rock, .	S.
"	"	..	"	"	"
"	"	..	"	"	"
"	"	..	"	"	"
"	"	..	"	"	"
"	"	..	"	"	"

## APPENDIX II.—ENGLISH

Derbyshire, .	Chataworth, . .	..	—	—	Sheltered,
Gloucester, .	Tortworth Court, .	..	—	—	..
Rutland, .	Belvoir Castle, .	750 0	{ Light loam (iron- stone soil), }	Inferior oolite, .	{ Sheltered in wood. }
"	"	"	"	"	"
"	"	"	"	"	"
"	"	"	"	"	"
"	"	"	"	"	"
"	"	"	"	"	"
"	"	"	"	"	"
Staffordshire,	Envile Hall, . .	..	Medium loam, .	Gravel and sand, .	..
Somerset, .	Dunster Castle, .	..	Good loam, .	Clay and sand, .	..
Hampshire, .	Strathfieldsaye, .	..	Stiff clay, .	Sand, . . .	..
"	Kinmel Park (Aber- gele) . . . .	300 0	Strong loam, .	Clay, . . .	..
"	"	..	"	"	..
"	"	..	"	"	..
"	"	..	"	"	..
"	"	..	"	"	..
"	"	..	"	"	..

SPANISH CHESTNUT—*continued.*

Height of Tree in Feet	Length of Bole.	Present Circumference of Trunk at			Any former recorded Measurements and Dates.			Diameter of Spread of Branches.	REMARKS.
		1 foot.	3 feet.	5 feet.	Date.	At 1 Foot.	At 3 Feet.		
Ft. In.	Ft. In.	Ft. in.	Ft. in.	Ft. in.		Ft. in.	Ft. in.	Ft. in.	
60 0	..	10 9	..	8 3	..	..	..	56 0	These are all in vigorous condition and health, and are developing wood.
60 0	..	13 1	..	9 5	..	..	..	60 0	
63 0	..	12 6	..	9 0	..	..	..	66 0	
60 0	..	11 2	..	8 6					
58 0	..	11 9	..	8 0					
55 0	..	12 1	..	8 0					

## RETURNS RECENTLY OBTAINED.

98 6	70 0	18 7	..	15 0	..	..	..	..	{ A splendid bole. Tree quite sound. This is the famous Tort-worth chestnut referred to in prefixed Report.	
40 0	..	45 9	..	47 9	..	..	..	..		
67 0	20 0	20 5	..	16 8	..	..	..	..	{ A stately tree, which has recently lost some very heavy limbs by gales.	
..	12 0	18 3	..	15 4	..	..	..	..		
..	30 0	21 2	..	15 3	{ ..	{ ..	{ ..	{ ..	{ Contents, 437 cubic feet timber. These fine trees form an irregular elliptic group at distances of from 30 to 60 ft. apart. Probably from the nature of the soil being impregnated with ironstone, no tree in the wood (oak, &c.) has been cut and found free from ring and star shakes, the former predominating. These trees nearly all branch off into two large limbs or heads, some indeed into clusters of large branches forming dense heads.	
..	9 0	16 4	..	12 4						
..	30 0	21 3	..	15 5						
44 0	14 0	18 6	..	13 8						
..	20 0	16 4	..	12 9						
..	9 0	15 9	..	12 4						
75 0	30 0	21 0	..	15 0						
66 0	6 0	21 0	..	20 6	..	..	..	..		{ Goes into four large limbs or straight stems at 6 ft. from ground.
80 0	..	16 6	..	12 6						
77 0	..	14 3	..	11 0						
About 60 feet high.	..	16 6	..	13 0	{ ..	{ ..	{ ..	{ ..		{ These five are growing in a row, and are tall trees, with good boles, but small tops for the size of the trees.
	..	15 6	..	13 0						
	..	24 0	..	15 6						
	..	19 6	..	15 6						
	..	15 6	..	11 9						
75 0	..	18 6	..	15 0						

A splendid park tree.

ON THE *HYLOBIUS ABIETIS* OR FIR WEEVIL.

By JOHN M. AITKEN, 24 St Andrew Square, Edinburgh.

[Premium—The Minor Gold Medal.]

ALL the information and experience that can be brought to bear on matters affecting our supply of home-grown timber, either in the way of improving the existing plantations or in connection with the formation of new ones, are necessary at the present time when we are constantly being reminded that the foreign supply cannot always last; and it is with the view of adding, if possible, to our present knowledge in the latter respect that the reporter begs to submit the following paper dealing with the *Hylobius abietis* or fir weevil, the damages caused by it to young plantations, and pointing out what occurs to him as the best mode of preventing these damages. The facts stated are the result of close personal observation, and the reporter believes that by treating of one insect (and that one of the most destructive to forest trees) in a practical manner, he will accomplish his object more fully than by giving a general description of several insects; and he proposes to notice *first*,—and somewhat in detail, so that it may be recognised,—the *insect* itself.

The *H. abietis* belongs to the order *Coleoptera* (or Beetle order), subclass *Holometabola*, of the class of *Insecta*, following the usual system of classification. It may be of interest, and perhaps use to some, to explain the term *Holometabola* as applied to this subclass of insects. As the word indicates, it means “whole” or “complete change,” and its application arises from the fact that these insects pass through three complete changes of appearance or metamorphoses from the time the egg is deposited till the insect appears perfectly developed:—1st, On leaving the egg a *larva* is produced, having a mouth suited for chewing; the body is usually soft, in rings or segments, and provided with three pairs of rudimentary legs; in this stage a very common name for it is that of “grub.” 2d, The larva sooner or later (according to the species) assumes a different form by passing into the chrysalis state, and is termed a *pupa*; it is usually covered with a somewhat tough skin or coat, and remains in a stationary condition. 3d, The final change is reached when the perfect insect or *imago* bursts its covering; by this time it is provided with wings and properly developed legs, and differs from its parents only in size.

1. *Description*.—The body of a full-grown *H. abietis* is about half an inch in length, and of a dull pitchy black colour, with scattered yellow patches, which in reality are masses of closely laid yellow hairs. It is divided into three distinct segments, viz. —1st, The head dotted over with patches of yellow hairs on a

dull black ground; the "rostrum" or snout is from  $\frac{1}{8}$ th to  $\frac{3}{8}$ ths of an inch long, and of a black colour; it has a small ridge down the middle; the "antennæ" or feelers are situated near the apex or point of the rostrum, and serve to distinguish the *H. abietis* from other allied species; the eyes are placed at the base of the rostrum; the mouth is furnished with a chewing or masticatory apparatus. 2d, The thorax, to which the legs and wings are attached. It can be separated into a pro-thorax (next the head), mesa-thorax (middle), and a meta (or hind) thorax; the former bearing one pair of legs, and the two latter one pair of legs and one pair of wings each. The pro-thorax is protected by a hard covering, the "scutellum," which is of a dark colour with scattered patches of grey and yellow hairs. 3d, The abdomen, which is soft, and has no legs nor wings developed on it.

As already mentioned, there are six legs, each consisting of three segments or divisions, and a jointed "tarsus" at the end provided with two small claws, which assist the insect in climbing; the two anterior or upper wings are very hard, and form a strong covering or encasement for the posterior pair; their inner edges fit so closely, that at first sight they appear to be in one piece; the upper surface is of a dim black colour, with patches and bands of yellow hairs; while the under surface is of a shining black: on the upper surface of each there are nine longitudinal, dotted, or punctured lines or furrows. The posterior or under wings are of a delicate membranous structure resembling that of the wings of a bee, and are used chiefly, if not exclusively, in flight. It may be here remarked that the wings are seldom employed, the common means of locomotion being the legs; but that these insects do occasionally fly, may be shown from the reporter having found a full-grown and living specimen in a garden surrounded by houses, and situated about a mile distant from any plantation.

2. *The Damage*.—In order that the nature and extent of the damage caused by the *H. abietis* can be understood, it may be as well to give a short description of the plantation where it occurred. During the early part of 1876 the full-grown trees on a large section of ground were cut down and removed; these trees consisted of larch, spruce, and Scots firs, with some hardwood, growing, it should be noticed, in patches as suited to the soil and other qualifying circumstances. The branches and other rubbish were burned, the ground thoroughly cleared, drained, and replanted *regularly all over* with equal numbers of larch, spruce, and Scots fir trees during the ensuing winter and the early part of 1877.

Towards the end of July 1877, the reporter was informed that a great many of the young trees were being destroyed by hares or rabbits, and it could not be accounted for, as the ground game

was most stringently kept down ; it was quite a rarity to see either a hare or a rabbit in or near the plantation. At the first glance it appeared to him that the damage was being caused in the supposed way ; but on a minute examination of one of the damaged trees, he satisfied himself that the four-footed animals were, in this instance, free from blame, and that the damage was most probably the work of an insect of the beetle species. He was led to this conclusion by observing that, although the bark was in many instances peeled clean off the branches down to the point of junction with the stem, yet none of the branches were *cut*, as would have been the case, at least, with the very slender branches, had hares or rabbits been the depredators. This view proved to be correct, as on a second visit to the plantation the reporter found from 25 to 30 of the beetles busy at work ; and it was particularly noticeable that they had commenced on the stem of the tree at or near the surface of the ground. In some cases the bark was peeled clean off, in others it was only partly removed, yet in the majority of damaged trees the injury was so great that, if not already dead, they could not be expected to recover. A number of the stronger larches had been commenced on, but only small portions of the outer bark were removed, as it was probably too tough, or did not contain suitable nourishment for the insect.

The *extent* of the damage done to this plantation cannot be accurately ascertained, as it has been prudently decided not to fill up the blanks in the meantime ; but from several careful inspections of the ground, the reporter believes that it is quite within the mark to state that the number of deaths from this cause alone is not less than one-half that of the trees planted. It is of some importance to point out that the damage was invariably greatest where the ground was formerly occupied by Scots firs ; where larches and spruces formerly were the damage was not so severe, and it was still less on the parts where hardwood trees (oak and beech) grew,—few of the young trees there having sustained injury in this respect. From this it may reasonably be inferred that the *H. abietis* is to be found in the greatest number among, and obtains the most suitable food from, the Scots firs. In support of this inference it may also be stated that the number of damaged trees in the plantation is largest among the young Scots firs, showing that they are attacked first ; next in order of death-rate are the larches, and, lastly, the spruces. In order to test this matter further, one or two experiments were carried out by the reporter, and may prove of some interest.

On the 5th of September 1877, five full-grown *H. abietis* and three smaller ones (apparently hatched during that year), were placed in small boxes provided with glass lids, and a larch twig

about four inches long put into each box ; in a few days the bark was almost entirely peeled off. On the twelfth a small piece of larch and one of Scots fir were placed in each box, and by the 18th it was found that the Scots fir was completely peeled, while the larch was intact. The feeding was continued till 10th November at intervals of about a week, with larch, spruce, and Scots fir separately, and occasionally two of the kinds together ; in every instance a decided preference was shown for the Scots fir. On the 10th of November it was observed that one of the old *H. abietis* was dead, and the remaining four died previous to or on 10th December. The three young ones survived till about the 28th of February 1878. It may be remarked, however, that no food was supplied to the insects from 10th November 1877, for the special purpose of ascertaining how long they could exist without it. It must be borne in mind that they were in confinement, and not in their natural state.

It is probable that the *H. abietis* hatched in the spring or summer of one year, passes the winter in a semi-dormant state ; re-appears in the following spring, lays its eggs, and dies in the autumn or early winter months ; its term of life extending to fifteen or eighteen months.

3. *Prevention.*—From what has been said, it may be gathered that the *H. abietis* is to be met with principally, if not entirely, in presently existing plantations. It is there it gets its food, lives, and breeds ; and it is on ground where fir trees (larch, spruce, and Scots fir) have lately been cut down and a young plantation formed, that its ravages are chiefly to be feared. It cannot be supposed that it would be found, say on natural pasture or heathery ground, as it could not exist ; and it is on this principle the reporter would recommend, as the natural and effectual preventive against damage from this insect, that all ground formerly a fir or mixed plantation, and which it is intended to replant with firs (larch, spruce, and Scots firs) should be allowed to remain unplanted for at least three years on this account alone, and entirely apart from the question of the advisability, on other grounds, of early planting. As a result of the want of food, the insects must either migrate or die ; the older and stronger will probably find a lodgment in some other plantation, but it can readily be conceived that many of the young ones will be unable to obtain suitable food at the time when it is most required, and will die. It might be thought that if this be the case, planting could be prudently commenced in a year or so after the removal of the old trees ; but it must be remembered that there will be many insects in the various stages of development, and eggs to be hatched, remaining on the ground, so that the time specified appears to be a safe one. In the interval between cutting down and replanting, the branches and



rubbish could be removed or burned, and the ground drained where required.

The reporter has seen it stated that washing the trees with spirits of turpentine and lime water previous to planting will act as a safeguard against the attacks of the *H. abietis*; but however beneficial this treatment might be in destroying any parasites lodged about the bark, he does not consider it would have the desired effect, and that because it would have wholly lost its strength, from exposure to the weather from the time of its application (during winter) till the first appearance of the *H. abietis* about the end of May. Other plans for the destruction of the pest have been proposed, such as picking the insect off the trees when it has commenced its attacks: this would be impracticable in a large plantation; besides, it is rare to find the *H. abietis* in large numbers during the day. The reporter therefore thinks that a natural system of procedure such as he has endeavoured to point out will be found to be the most successful.

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#### ON VARIATIONS IN THE COMPOSITION OF OATS.

By Professor HENRY TANNER, M.R.A.C.

[*Premium—Medium Gold Medal.*]

I AM permitted by the Council of Education to bring under the notice of your Society some details respecting the variations in the quality and composition of Oats, resulting from an inquiry, in which many members of your Society kindly co-operated. It had been represented to the Council of Education that it was desirable, for educational purposes, to determine the variations in the produce and the composition of corn, and to trace these variations to their respective causes. The following data constitute the first steps in the research I was authorised to carry out for this purpose.

The specimens examined were all grown in this country in 1877, a year remarkable for being a cold and unfavourable season for corn, followed by much bad harvest weather. It must therefore be borne in mind that these results have been arrived at by the evidence obtainable in the growth of a single season; and a continuance in the inquiry will probably give additional facts, confirmatory of their character, and increase our knowledge of the limits of variation. I have much pleasure in acknowledging the valuable assistance I have received from G. W. Wigner, Esq., F.C.S., who has personally directed, on my behalf, the important series of analyses upon which these statements are based.

The variation in the production of actual food from a given

area of land was known to be great; but it appeared desirable to determine the composition of the largest and the smallest crops of the season, which came under our notice. The largest crop of oats yielded 80 bushels per imperial acre, weighing 40 pounds per bushel; and the smallest crop yielded 10 bushels, of 22 pounds each, per acre. In the former case there was a produce of 3200 pounds from the acre, and in the latter case only 220 pounds.

The chemical analysis of these specimens of oats gave the following results:—

	Composition of	
	Largest crop.	Smallest crop
True albuminoid matters (gluten), . . . . .	7·59	1·58
Starch, gum, &c., . . . . .	66·81	64·49
Fatty matter, . . . . .	1·02	1·68
Cellulose, . . . . .	7·08	16·36
Nitrogenous matter (not true albuminoids), . . . . .	1·38	1·21
containing nitrogen, . . . . .	(·218)	(·190)
Alkaline salts in ash, . . . . .	1·19	1·05
Earthy salts in ash, . . . . .	·55	·82
Silicious matter in ash, . . . . .	1·43	·88
Water, . . . . .	12·95	11·93
	<hr/> 100·00	<hr/> 100·00

These details enable us to show the total quantities of flesh-forming matter, and also of fat and heat-producing matter produced from an imperial acre in each of these crops—

	Acreage yield of Oats.			
	Largest crop.		Smallest crop.	
	lbs.	lbs.	lbs.	lbs.
Substances <b>useful</b> as food—				
Flesh-forming matter, . . . . .	242½		3½	
Fat and heat-producing matter, . . . . .	2170½		145½	
	<hr/> 2413½		<hr/> 149	
Substances of little or <b>no use</b> as food—				
Cellulose, &c., . . . . .	270½		38½	
Mineral matter, . . . . .	101½		6	
Water, . . . . .	414½		26½	
	<hr/> 786½		<hr/> 71	
	<hr/> 3200		<hr/> 220	

We thus see that one acre of land produced nearly fifteen times as much fat and heat-producing matter, and nearly seventy times as much flesh-forming matter, as another acre of land, indicating a very extensive range in the production of food from a similar extent of land. The variation in the feeding matter contained in one bushel of each crop gives a more definite view of their respective feeding values.

	Composition of one bushel of Oats.			
	Largest crop.		Smallest crop.	
	lbs.	lbs.	lbs.	lbs.
<b>Substances useful as food—</b>				
Flesh-forming matter, . . . . .	3		$\frac{1}{2}$	
Fat and heat-producing matter, . . . . .	27		14 $\frac{1}{2}$	
		30		15
<b>Substances of little or no use as food—</b>				
Cellulose, &c., . . . . .	3 $\frac{1}{2}$		3 $\frac{1}{2}$	
Mineral matter, . . . . .	1 $\frac{1}{4}$		$\frac{1}{2}$	
Water, . . . . .	5 $\frac{1}{4}$		2 $\frac{3}{4}$	
		10		7
<b>Weight per bushel, . . . . .</b>		40		22

We have now to notice the comparative feeding value of the heaviest and the lightest oats grown in 1877. The weight per bushel of the former reached 49 pounds, and the lightest oats only weighed 20 pounds. The chemical analysis of these specimens was as follows:—

	Composition of	
	Heaviest Oats.	Lightest Oats.
True albuminoid matters (gluten), . . . . .	8.92	2.72
Starch, gum, &c., . . . . .	61.17	64.20
Fatty matter, . . . . .	2.38	3.92
Cellulose, . . . . .	11.83	12.98
Nitrogenous matter (not true albuminoids), . . . . .	.84	.50
containing nitrogen, . . . . .	(.136)	(.079)
Alkaline salts in ash, . . . . .	.75	.50
Earthy salts in ash, . . . . .	1.07	1.32
Silicious matter in ash, . . . . .	.70	.90
Water, . . . . .	12.34	12.96
	100.00	100.00

The produce per imperial acre in the case of the heaviest oats was 57 bushels, weighing 49 pounds per bushel, or 2793 pounds of oats per acre. In the case of the lightest oats the crop yielded 22 bushels, of 20 pounds per bushel, or 440 pounds of oats per acre. The production of feeding matter from each acre of land showed a very marked variation.

	Acreage yield from.			
	Heaviest Oats.		Lightest Oats.	
	lbs.	lbs.	lbs.	lbs.
<b>Substances useful as food—</b>				
Flesh-forming matter, . . . . .	249		12	
Fat and heat-producing matter, . . . . .	1775 $\frac{1}{2}$		295 $\frac{1}{2}$	
		2024 $\frac{1}{2}$		307 $\frac{1}{2}$
<b>Substances of little or no use as food—</b>				
Cellulose, &c., . . . . .	354		63 $\frac{1}{2}$	
Mineral matter, . . . . .	70		12	
Water, . . . . .	344 $\frac{3}{4}$		57	
		768 $\frac{3}{4}$		132 $\frac{3}{4}$
		2793		440

Here we have six times as much fat and heat-producing matter and twenty times as much flesh-forming matter produced from the same extent of land. The variation per acre was not as great as in the case of the largest and the smallest crop; but in examining the composition per bushel we shall find that the range in the relative feeding value was even greater than in those instances—

	Composition of one bushel of			
	Heaviest Oats.		Lightest Oats.	
	lbs.	lbs.	lbs.	lbs.
<b>Substances useful as food—</b>				
Flesh-forming matter, . . . . .	4½		½	
Fat and heat-producing matter, . . . . .	31		13½	
	—	35½	—	14
<b>Substances of little or no use as food—</b>				
Cellulose, &c., . . . . .	6½		3	
Mineral matter, . . . . .	1¼		½	
Water, . . . . .	6		2½	
	—	13½	—	6
Weight per bushel, . . . . .		49		20

It is probable that in consequence of the very unfavourable season of 1877, we have practically reached the lowest quality of oats, but it is quite possible that we have not reached the highest range of quality. Still, sufficient has been done for the present to show some of the great variations which are observable in the production and in the quality of oats.

The inquiry was also extended so as to include those cases in which by skilful management difficulties of soil and climate were surmounted, and to show the influence which was thus exerted upon the production of food. In one case we found the good and the bad management of land, fairly similar in natural character, and under similar conditions of climate, producing crops exceedingly different in quantity and quality. Under good cultivation we found 50 bushels of oats, weighing 43 pounds per bushel, produced from one acre of land; and only 10 bushels, weighing 22 pounds per bushel, yielded by another acre of similar land. The chemical analysis of these specimens of oats gave the following results:—

	Composition of Oats grown under	
	Good cultivation.	Bad cultivation.
True albuminoid matters (gluten), . . . . .	7·18	1·58
Starch, gum, &c., . . . . .	61·69	64·49
Fatty matter, . . . . .	2·88	1·68
Cellulose, . . . . .	9·10	16·36
Nitrogenous matter (not true albuminoids), . . . . .	3·32	1·21
containing nitrogen, . . . . .	(·524)	(·190)
Alkaline salts in ash, . . . . .	1·20	1·05
Earthy salts in ash, . . . . .	·58	·82
Silicious matter in ash, . . . . .	·70	·88
Water, . . . . .	13·35	11·93
	—	—
	100·00	100·00

The production of food in these instances also showed how greatly good cultivation enables the yield of corn to be increased in quantity, and, at the same time, that it becomes of greater value. The composition of the oats produced upon each imperial acre may be stated as follows:—

	Acreage yield of Oats under			
	Good cultivation.		Bad cultivation.	
	lbs.	lbs.	lbs.	lbs.
Substances useful as food—				
Flesh-forming matter, . . . .	154½		3½	
Fat and heat-producing matter, .	1388½		145½	
		1542½		149
Substances of little or no use as food—				
Cellulose, &c., . . . .	267		38½	
Mineral matter, . . . .	53½		6	
Water, . . . .	287		26½	
		607½		71
		2150		220

Great as such variations as these are for the same extent of land, we shall obtain even more accurate ideas of the differences in the feeding value of the produce, by comparing the composition of one bushel of each growth:—

	Composition of one bushel of Oats grown under			
	Good cultivation.		Bad cultivation.	
	lbs.	lbs.	lbs.	lbs.
Substances useful as food—				
Flesh-forming matter, . . . .	3		½	
Fat and heat-producing matter, .	28		14½	
		31		15
Substances of little or no use as food—				
Cellulose, &c., . . . .	5½		3½	
Mineral matter, . . . .	1		1	
Water, . . . .	5½		2½	
		12		7
Weight per bushel, . . . .		43		22

The influence exerted upon the quality and the yield of oats, by the more or less perfect drainage of the land, was also examined. The produce of two fields, having soils of similar character, and situated under similar conditions of climate, was found to differ as follows:—

The land, which had been properly drained, yielded 38 bushels of oats per imperial acre, weighing 42½ pounds per bushel, whilst the undrained land gave only 26 bushels of oats, weighing 37 pounds per bushel. The chemical analysis of these specimens of oats gave the following results:—

	Composition of Oats grown upon	
	Drained land.	Undrained land.
True albuminoid matters (gluten), . . . . .	7.79	7.03
Starch, gum, &c., . . . . .	54.58	55.67
Fatty matter, . . . . .	4.23	3.56
Cellulose, . . . . .	14.86	14.90
Nitrogenous matter (not true albuminoids), 2.50		1.79
containing nitrogen, . . . . .	(.395)	(.282)
Alkaline salts in ash, . . . . .	.42	.86
Earthy salts in ash, . . . . .	1.14	.72
Silicious matters in ash, . . . . .	.93	.78
Water, . . . . .	13.55	14.69
	<hr/> 100.00	<hr/> 100.00

From these data we are able to show the acreage production of food in these two instances, and thereby indicate the difference which may be fairly traceable to the influence of drainage:—

	Acreage yield of Oats grown on			
	Drained land.		Undrained land.	
Substances useful as food—	lbs.	lbs.	lbs.	lbs.
Flesh-forming matter, . . . . .	126		67½	
Fat and heat-producing matter, . . . . .	949½		570	
	—	1075½	—	637½
Substances of little or no use as food—				
Cellulose, &c., . . . . .	280¼		160½	
Mineral matter, . . . . .	40¼		22¾	
Water, . . . . .	219		141¼	
	—	539½	—	324½
		<hr/> 1615		<hr/> 962

The variations in the quality of the oats will be seen from the composition of one bushel of each of these crops:—

	Composition of one bushel of Oats			
	grown upon			
	Drained land.		Undrained land.	
	lbs.	lbs.	lbs.	lbs.
Substances useful as food—				
Flesh-forming matter, . . . . .	3¼		2½	
Fat and heat-producing matter, . . . . .	25		22	
	—	28¼	—	24½
Substances of little or no use as food—				
Cellulose, &c., . . . . .	7½		6	
Mineral matter, . . . . .	1		1	
Water, . . . . .	5¾		5½	
	—	14¼	—	12½
Weight per bushel, . . . . .		<hr/> 42½		<hr/> 37

One of the most interesting, and probably one of the most important influences affecting the production and the quality of oats, is that exerted by the seed. We found land of similar character and under similar conditions of climate, producing crops differing from each other in a very marked degree, and in the case examined, that variation was fairly traceable to the in-

fluence of the seed. The chemical analysis of the corn so grown gave the following results:—

	Composition of Oats grown from Seed of	
	Good character.	Bad character.
True albuminoid matters (gluten), . . . . .	5·89	2·72
Starch, gum, &c., . . . . .	62·94	64·20
Fatty matter, . . . . .	2·81	3·92
Cellulose, . . . . .	11·70	12·98
Nitrogenous matter (not true albuminoids), 1·18		·50
containing Nitrogen, . . . . . (·186)		(·079)
Alkaline salts in ash, . . . . .	·07	·50
Earthy salts in ash, . . . . .	·57	1·32
Silicious matter in ash, . . . . .	1·98	·90
Water, . . . . .	12·86	12·96
	<hr/> 100·00	<hr/> 100·00

The produce obtained from the seed having a good character was 35 bushels of oats per imperial acre, weighing 41 pounds per bushel, whilst the seed of bad character produced 22 bushels, weighing 20 pounds per bushel. The composition of the produce of one acre of each of these crops was as follows:—

	Acreage yield of Oats grown from Seed of			
	Good character.		Bad character.	
Substances useful as food—	lbs.	lbs.	lbs.	lbs.
Flesh-forming matter, . . . . .	84½		12	
Fat and heat-producing matter, . . . . .	943½		295½	
	<hr/> 1028		<hr/> 307½	
Substances of little or no use as food—				
Cellulose, . . . . .	185		63¾	
Mineral matter, . . . . .	37½		12	
Water, . . . . .	184½		57	
	<hr/> 407		<hr/> 132¾	
	<hr/> 1435		<hr/> 440	

The variations in the feeding powers of the oats so grown will be more clearly seen from a statement showing the food contained in one bushel of each crop:—

	Composition of one bushel of Oats grown from Seed of			
	Good character.		Bad character.	
Substances useful as food—	lbs.	lbs.	lbs.	lbs.
Flesh-forming matter, . . . . .	2½		½	
Fat and heat-producing matter, . . . . .	27		13½	
	<hr/> 29½		<hr/> 14	
Substances of little or no use as food—				
Cellulose, . . . . .	5¼		3	
Mineral matter, . . . . .	1		½	
Water, . . . . .	5¼		2½	
	<hr/> 11½		<hr/> 6	
Weight per bushel, . . . . .	<hr/> 41		<hr/> 20	

In speaking of seed of good or bad character, I do not simply refer to that external appearance or condition which is generally observable, but also to that hidden constitutional character which

subsequently enables the plant to struggle successfully against difficulties of growth. It is well known that seeds which differ but little in appearance, may have constitutional powers which will manifest themselves in unfavourable seasons, when the plant has to contend with adverse conditions. Nor must we limit the evidences of these influences to unfavourable seasons, although they give under such circumstances undeniable proof of their power, but we should, on the other hand, constantly acknowledge the truth of this hidden influence. In dealing with animal life we readily admit that we can intensify, and render more permanent any desirable points of character. In vegetable life something has been done to establish in seed those distinctive characteristics which we desire to perpetuate, but very much more yet remains to be accomplished.

Closely associated with this influence, is that which arises from "change of seed," by which is generally understood making use of a suitable seed grown in another district, or upon soil of a different character. In the case examined we found that the crop of oats grown after a "change of seed" yielded 46 bushels of oats per imperial acre, and these weighed 43 pounds per bushel, whilst upon the same land the crop grown without such change of seed produced only 24 bushels of oats, weighing 32 pounds per bushel. The chemical analysis of these crops were as follows:—

Composition of Oats grown			
		With change of seed.	Without change of seed.
True albuminoid matters (gluten), . . . . .	7.66	5.23	
Starch, gum, &c., . . . . .	60.90	59.77	
Fatty matter, . . . . .	2.45	4.07	
Cellulose, . . . . .	11.55	15.10	
Nitrogenous matter (not true albuminoids) 2.62		.48	
containing nitrogen, . . . . .	(.413)	(.076)	
Alkaline salts in ash, . . . . .	1.41	.55	
Earthy salts in ash, . . . . .	.35	1.31	
Silicious matter in ash, . . . . .	.25	.91	
Water, . . . . .	12.81	12.58	
	100.00	100.00	

The difference thus arising in the production is shown by a statement of the food produced by one acre of each crop:—

Acreage yield of Oats grown			
		With change of seed.	Without change of seed.
Substances useful as food—		lbs. lbs.	lbs. lbs.
Flesh-forming matter, . . . . .	151½		40
Fat and heat-producing matter, . . . . .	1253		490¼
	1404½		530¼
Substances of little or no use as food—			
Cellulose, &c., . . . . .	280¾		119¾
Mineral matter, . . . . .	39¾		21¼
Water, . . . . .	253½		96½
	573½		237¾
	1978		7CS



For the convenience of examining the feeding value of these oats, the composition of one bushel of each growth is added:—

		Composition of one bushel of Oats grown	
		With change of seed.	Without change of seed.
Substances useful as food—	lbs.	lbs.	lbs.
Flesh-forming matter, . . . . .	31 $\frac{1}{4}$		1 $\frac{1}{2}$
Fat and heat-producing matter, . . . . .	27 $\frac{1}{4}$		20 $\frac{1}{2}$
	<hr/>	30 $\frac{1}{2}$	<hr/>
			22
Substances of little or no use as food—			
Cellulose, &c., . . . . .	6		5
Mineral matter, . . . . .	1		1
Water, . . . . .	5 $\frac{1}{2}$		4
	<hr/>	12 $\frac{1}{2}$	<hr/>
			10
Weight per bushel, . . . . .		43	32

We now proceed to notice some of the changes effected in oats by unfavourable harvest weather. The crop of oats upon which our examination was based was of tolerably equal character throughout. One portion was secured without rain, whilst the remainder was moderately damaged by exposure to the wet. The chemical analysis of a fair specimen, taken from each portion of this crop, gave the following results:—

Composition of Oats		
	Harvested without rain.	Damaged by rain.
True albuminoid matters (gluten), . . . . .	7.66	6.90
Starch, gum, &c., . . . . .	65.01	62.93
Fatty matter, . . . . .	.96	2.80
Cellulose, . . . . .	11.54	10.60
Nitrogenous matter (not true albuminoids)	.61	.65
containing nitrogen), . . . . .	(.096)	(.103)
Alkaline salts in ash, . . . . .	.46	.77
Earthy salts in ash, . . . . .	1.15	.78
Silicious matter in ash, . . . . .	.67	.83
Water, . . . . .	11.94	13.74
	<hr/>	<hr/>
	100.00	100.00

That portion of the crop which was harvested in good condition, yielded 33 bushels of oats per imperial acre, weighing 41 $\frac{1}{2}$  pounds per bushel, and the part injured by rain produced 32 bushels of oats per acre, weighing 39 $\frac{1}{2}$  pounds per bushel. The actual food contained in these portions was as follows:—

Acreage composition of Oats			
Harvested without rain. Damaged by rain			
Substances useful as food—	lbs.	lbs.	lbs.
Flesh-forming matter, . . . . .	105		87 $\frac{1}{4}$
Fat and heat-producing matter, . . . . .	903 $\frac{3}{4}$		830 $\frac{3}{4}$
	<hr/>	1008 $\frac{3}{4}$	<hr/>
			918
Substances of little or no use as food—			
Cellulose, &c., . . . . .	166 $\frac{1}{2}$		142 $\frac{1}{4}$
Mineral matter, . . . . .	31 $\frac{1}{4}$		30 $\frac{1}{4}$
Water, . . . . .	163 $\frac{1}{2}$		173 $\frac{1}{2}$
	<hr/>	361 $\frac{1}{4}$	<hr/>
			346
	<hr/>	1370	<hr/>
			1264

In order that we may judge more clearly as to the effect upon the nutritive value of the oats, it is desirable to show the

	Composition of one bushel of Oats			
	Harvested without rain.		Damaged by rain.	
Substances useful as food—	lbs.	lbs.	lbs.	lbs.
Flesh-forming matter, . . . . .	3 $\frac{1}{4}$		2 $\frac{3}{4}$	
Fat and heat-producing matter, . . . . .	27 $\frac{1}{4}$		26	
		30 $\frac{1}{2}$		28 $\frac{3}{4}$
Substances of little or no use as food—				
Cellulose, &c., . . . . .	5		4 $\frac{1}{2}$	
Mineral matter, . . . . .	1		1	
Water, . . . . .	5		5 $\frac{1}{4}$	
		11		10 $\frac{1}{4}$
Weight per bushel, . . . . .		41 $\frac{1}{2}$		39 $\frac{1}{2}$

It may be interesting if I add to the foregoing, the results of an examination made of four crops of oats, grown from the same seed, upon similar (loamy) soils, and under somewhat similar management, but in very different climates:—

Specimen		Miles from the sea.	Feet above the sea.
A	was grown on a small island,	2	200
" B	" a highland farm,	60	1100
" C	" an inland farm,	16	300
" D	" an inland farm,	30	800

The composition of these oats, as shown by chemical analysis, was as follows:—

	A	B	C	D
True albuminoid matters (gluten), . . . . .	9·48	8·23	8·73	7·72
Starch, gum, &c., . . . . .	61·27	61·10	61·62	64·98
Fatty matter, . . . . .	3·05	2·16	1·59	3·34
Cellulose, . . . . .	8·98	10·58	8·60	6·02
Nitrogenous matter (not true albuminoids), . . . . .	·81	1·53	2·29	·77
containing nitrogen, . . . . .	(·127)	(·241)	(·361)	(·122)
Alkaline salts in ash, . . . . .	1·12	·97	·76	·80
Earthy salts in ash, . . . . .	·83	·78	·88	·96
Silicious matter in ash, . . . . .	·97	1·12	1·31	·92
Water, . . . . .	13·49	13·53	14·22	14·49
	100·00	100·00	100·00	100·00

The produce of oats obtained in each of these cases is as follows:—

A, 44 bushels of Oats per acre, weighing 29 pounds per bushel—1276 lbs.			
B, 32 " " " 40 " " 1280 "			
C, 42 " " " 36 $\frac{1}{2}$ " " 1533 "			
D, 48 " " " 38 " " 1824 "			

The feeding value of these crops will be seen in the following statement :—

	Acreage composition of			
	A	B	C	D
	lbs.	lbs.	lbs.	lbs.
Substances useful as food—				
Flesh-forming matter, . . .	121	105½	133¾	141
Fat and heat-producing matter, . . .	820½	809½	969	1246
Substances of little or no use as food—				
Cellulose, &c., . . . . .	125	155	167	123¾
Mineral matter, . . . . .	37¼	36¾	45¼	49
Water, . . . . .	172¼	173¼	218	264¼
	1276	1280	1533	1824

To these details I shall now only add a statement showing the variations in the nutritive value of one bushel of each of these crops of oats—

	Composition of one bushel of Oats.			
	A	B	C	D
	lbs.	lbs.	lbs.	lbs.
Substances useful as food—				
Flesh-forming matter, . . .	2¾	3¼	3¼	3
Fat and heat-producing matter, . . .	18½	25¼	23	26
Substances of little or no use as food—				
Cellulose, &c., . . . . .	3	5	4	2½
Mineral matter, . . . . .	¾	1	1	1
Water, . . . . .	4	5½	5¼	5½
Weight per bushel, . . . . .	29	40	36½	38

For the present it appears desirable to avoid dealing with these data as if they were complete, or as if they afforded a safe basis for fully explaining the causes of all the variations in quality and in yield, which have been pointed out. It will be seen that the inquiry has contributed some new facts, and has also opened up some important questions for future research. These are likely to influence the economical production of food, by aiding in the growth of crops of the highest nutritive character. The several influences which have been referred to, vary of necessity in their force and intensity. The cases I have named may be dealt as facts contributing some little information upon the subject, but we should not be safe in considering that the fullest powers of these several influences have been determined. It must, however, be remembered that it is by avoiding not one, but a series of unfavourable conditions, and by the adoption of all the favourable influences we can command, that we shall most fully promote luxuriant growth.

ON THE RECLAMATION OF WASTE LAND ON THE FARM  
OF BALLIMORE, IN THE COUNTY OF BANFF.

By GEORGE GRANT, Allamichie, Dufftown.

[*Premium—Five Sovereigns.*]

THE reporter is the occupier and reclamer of ten acres of waste land, which, in conjunction with the arable land on the farm, is held under lease. The ten acres referred to have an elevation of 800 feet above sea-level, with a northern exposure; the soil is a mixture of clay and granite, with clay subsoil. Previous to reclamation, it grew only heather, with the exception of a small proportion of inferior grass, and its annual value would not have been more than 1s. 6d. per acre. The principal obstacles opposed to its reclamation was a large quantity of stones; and the half of it being wet, necessitated draining.

*Process of Reclamation.*—The heather having been previously burned, the first operation was to dig out all the stones which could be found about the surface; and with a view to fencing, the largest of them were carted off and laid down along the margin of the ground; the smaller ones were also carted off and laid down for drains. This greatly facilitated the ploughing, the mode of which I shall notice afterwards.

Draining was the next operation, and as the subsoil was of a close and compact nature, it was found necessary to put in the drains not more than 21 feet apart, or about 594 yards to the acre, at a cost of about 2½d. per yard, or £6, 3s. 9d. per acre. They were cut a little over 3 feet deep, 14 inches wide at the top, and about 8 inches wide at the bottom. Stones were then split as small as at least three of them could be set perpendicular between the two sides of the drain. Smaller stones, to the depth of about 6 inches, were put on the top, while over them was laid a thin covering of heather, to keep the mould, which was then filled in, from falling down among the stones.

Ploughing was the next operation, and in order to ascertain the result upon the crop grown upon land ploughed six or eight months (the usual time before sowing), and that ploughed and left exposed to the ameliorating influences of the atmosphere for a much longer period, I commenced, in the summer of 1869, with a common plough, drawn by three horses, and turned over two acres. The average depth of the furrows was about 7 inches, and the average breadth about 10 inches. Notwithstanding the large number of stones which were picked from the surface, as has been already noticed, a considerable number were laid bare by the plough, and during the time of ploughing two men were required for picking out stones and turning over part of the furrows. The two acres having been finished, nothing more was done until the following summer, when the remaining eight acres

were ploughed in precisely the same way as described above. Here I may remark, that with the exception of draining, all the work done in connection with reclaiming the above ten acres was executed by the staff of hands regularly employed upon the farm—being done mostly in wet weather, when other work among the arable land had to be suspended. The ploughing, and all other work in connection with it, I estimate at £4, 10s. per acre. The stones having been cleared off at convenient seasons, the whole was sown about the last days of April 1871, with 1 quarter oats to the acre; 9 bolls of lime per acre were spread upon the surface, at a cost of 2s. per boll; and before harrowing was completed,  $2\frac{1}{2}$  cwt. per acre of Gibb's ammonia-fixed Peruvian guano were sown, at a cost of 15s. 6d. per cwt. The harrowing having been finished, a man for a few days was required for breaking and levelling parts of the furrows which had been torn up by the harrows. Having then been rolled, it had a wonderful smooth surface. The weather during the first part of the season was favourable for mostly all kinds of crops, and the braird on the new land came up rapidly, and had a good appearance to the end of the season, especially the two acres first ploughed; but none of it was ripe until the middle of October, when it was cut, and a week after was put into the stackyard in good condition. It was thrashed the following spring, when it was found that the two acres ploughed in the summer of 1869 gave each 4 quarters 4 bushels oats, while that ploughed in the summer of 1870 gave only 3 quarters 5 bushels per acre. All weighed the same, 40 lbs. per bushel, and sold at 25s. per quarter. The straw was not sold, but its value would have been 12s. per quarter of grain. It will thus be seen that the early ploughing gave 7 bushels more upon each acre than the late ploughing, which was equal to £1, 10s. 7½d. per acre. The field was again ploughed soon after taking the crop off it, and was sown a second time, on the 29th of April 1872, with one quarter of oats to the acre. It was manured with  $2\frac{1}{2}$  cwt. of guano per acre, at a cost of 16s. per cwt. The summer and autumn of 1872 were exceedingly wet, rain falling almost every day, and the ground in question not soaking it in as fast as it fell, the crop was effected thereby. It was not cut until the 24th of October, and was not even then at full maturity. It was put into the stackyard about a week after, and was thrashed the following spring, when it was found that there were 3 quarters 4 bushels off each acre, which weighed 39 lbs. per bushel, and sold for 22s. per quarter. The straw was worth 13s. per quarter of grain. Turnips were intended for the next crop, and the ground was ploughed rather deeper than before. And shortly before the turnips were sown, it was gone over with a grubber, and, being well harrowed, it was all that was required. There being no weeds, the turnips, which were all yellows, were sown about the first week of June, and as the farm-yard manure

was otherwise required, they were laid down with 6 cwt. of mixed bones and 2 cwt. of guano per acre, which, together, cost £4 per acre. The plants came up well, and had a fresh appearance until the end of autumn. They were a fair crop, the value of which I estimate at £7 per acre. The land was again ploughed in the spring of 1874, and was sown about the middle of April with 7 bushels of oats to the acre, and before the harrowing was finished, I sowed per acre 1 bushel of rye-grass, 4 lbs. of red clover, and 2 lbs. of white clover seeds, at a cost of 11s. per acre. The oats were cut on the last days of September, and soon after were thrashed, when it was found there had grown 4 quarters upon each acre, which weighed 42 lbs. per bushel, and sold for 25s. per quarter. The straw was worth 13s. per quarter of grain. The young grass had a good appearance during autumn and winter, except in some small patches where the soil was pure clay. It having been enclosed at a cost of £14, partly by a stone dyke and partly by a wire fence, it was pastured by cattle during the three years it was under grass. The value of which I estimate at first year's grass, £3, 5s.; second year's grass, £3; third year's grass, £2, 5s. per acre. The following table shows the income and expenditure at Martinmas 1877 :—

## EXPENDITURE.

	Drain- ing.	Plough- ing.	Seeds, Oats, Ryegrass &c.	Fencing.	Manure.		Miscella- neous.	Total.
					Lime.	Guano.		
1871, or first year, . . .	£ s. d. 38 18 9	£ s. 45 0	£ s. 15 0	£ s. ...	£ s. 9 0	£ s. d. 19 7 6	£ s. d. 1 4 6	£ s. d. 120 10 9
1872, or second year, . . .	...	11 0	14 10	...	...	20 0 0	2 0 0	47 10 0
1873, or third year, . . .	...	14 0	8	...	...	40 0 0	5 12 0	60 0 0
1874, or fourth year, . . .	...	8 0	20 10	14 0	...	...	...	42 10 0
								270 10 9

## INCOME.

	Number of qrs. of Oats with Fodder.	Value per qr. with Fodder.	Value per acre of Turnips.	Value per acre of Grass.	Total.
Crop 1871	£ s. 1 18	£ s. 1 17	£ s. ...	£ s. ...	£ s. 70 6
" 1872	1 15	1 15	...	...	61 5
" 1873	...	...	7 0	...	70 0
" 1874	2 0	1 18	...	...	76 0
" 1875	...	...	...	3 5	32 10
" 1876	...	...	...	3 0	30 0
" 1877	...	...	...	2 5	22 10
					362 11

The foregoing tables show there is a profit of £92, 0s. 3d.; but when we take into account the value of the ten acres for eight years, as in its natural state, it is found the profit has to be reduced £6, which leaves a net profit of £86, 0s. 3d.

## ON THE GROWTH AND CULTIVATION OF WILLOWS IN SCOTLAND.

By WILLIAM SCALING, Basford, Notts.

[*Premium—Medium Gold Medal.*]

### WILLOW TIMBER-TREES.

THERE are only two species of willow that can be profitably grown as timber trees, *Salix alba* or the white willow, and *S. fragilis* or the brittle willow. In describing the above the same difficulty exists as in describing the varieties of basket willow, viz., that the species of willow is a subject of controversy. Under each of the names above I include several that are usually called species, but which thirty years' experience has convinced me are only varieties; but as I have been for some years collecting information upon this subject, with the view of ultimately making it known, it will perhaps be deemed sufficient if the varieties named are so described as to be clearly recognised.

The first and most important as a timber tree is the *S. alba* and its varieties. This species is conspicuous by reason of the soft silvery pubescence of its leaves. Other willows have the under side of the leaves covered with down, but no other willow has both the upper and under sides so distinguished. All the leaves are not so covered, but the young leaves found at the ends of the twigs or branches always are. *This is characteristic.* The leaves are small, lance-shaped, and finely serrated on the edges. The twigs of several of this group are beautifully coloured, from a deep carmine, to a rich orange colour. The wood is light and extremely tough, and for this purpose it is used by cricket bat makers, and for cutting boards, and other purposes where extreme toughness is required. The three best varieties of this class are the following:—*S. alba* or *Huntingdon*.—*these are identical*; *S. sanguinea*, or the Ardennes willow; *S. coccinea*, the latest out, and the most beautiful. My experience of this tree only extends over a period of six years, and with the following results, in the trial ground at Basford, Notts. At five years old it measures 24 feet high, and at 1 foot from the ground 23 inches in girth, in rich alluvial soil, and near running water.

The same variety of tree, in gravelly soil, at five years old, measures 19 feet high, and at one foot from the ground 18 inches in girth.

The same variety of tree, in peat and clay subsoil, at five years old, measures 21 feet high, and at 1 foot from the ground 20 inches in girth.

A tree of *S. alba* or *Huntingdon*, at eight years old, measures 35 feet high, and at 1 foot from the ground 33 inches in girth, in rich alluvial soil, and near running water.

A tree of *S. alba* or *Huntingdon*, in a dry gravelly soil, and planted same year, at eight years old measures 24 feet high, and at 1 foot from the ground 23 inches in girth.

A tree of *S. alba* or *Huntingdon*, planted the same year in peat, with clay subsoil, at eight years old, measures 26 feet high, and at 1 foot from the ground 24 inches in girth.

The above trials confirm the opinion that I have long held, viz., that the soil best adapted for this species of willow is that found on the margin of streams. In page 1520 of Loudon's "Arboretum Britannicum," it is stated that a cutting planted by Mr Brown of Hetherset, Norfolk, became in ten years a tree of 35 feet in height and 5 feet in girth; and in the same work a tree is mentioned at Audley End, in Essex, of twenty years' growth, which was 53 feet high and 7 feet 6 inches in girth. A few years ago I saw six trees of the *S. alba* felled near Southwell, Notts thirty-eight years of age, which yielded unitedly 232 feet of measurable timber, and which were sold on the spot at 1s. 2d. per cubic foot.

Lowe, in his Survey of the County of Nottingham, states that so very valuable are willows as plantation trees, that at eight years' growth they yield in poles a net profit of £214 per acre. He does not say that such an amount was actually obtained for the produce of an acre, and I am therefore disposed to think that the amount he names is considerably overstated. The variety named *S. sanguinea* has not, that I am aware of, been tried in either England or Scotland as a timber tree, but it is extensively grown in the Ardennes, makes a very handsome tree, and is a very conspicuous object in the landscape; it is very hardy, and would stand the climate of Scotland. I have seen it in great perfection on the shores of the Baltic, and have introduced it here, but am not able to give the result of any trials. To grow this species of willow in perfection, it must be planted closely; the branches grow nearly perpendicular, and have little spread. The cuttings should not be more than three feet apart each way, or 4840 cuttings to the acre. At the end of four or five years they should be thinned out to a quarter of that number, or 1210; and at twelve to sixteen years they may be again reduced to about 300 trees, which will leave ample space for their full development, and at thirty-six to forty years of age they will have attained to full perfection. If they are permitted to stand beyond this time they will rapidly deteriorate. The value of an



acre of willow timber, at the most moderate computation, would not be less than £300 to £350, and the two thinnings would have more than paid the entire cost of planting and subsequent management.

Willows for timber may be planted at a small outlay. It is only necessary to clear the land of rough weeds or brush, and if the ground is soft enough to admit of the cuttings being pushed in, nothing more need be done. To make it better understood, it may be stated that all willows grow better from cuttings than they do from rooted plants. Although easy to grow, willows are precarious to transplant; and if I had a young plantation to remove, I should cut the roots entirely off, and push in the stem in the form of a cutting. This method of planting, when carefully done, and the ground well trodden down, is invariably successful. My plan is as follows:—Plant a piece of ground in the nursery with the sort of willow intended for trees, after the method advised for the planting of basket willows. At the end of the first year trim off all but the best grown twigs, or what is more effective, cut all off as in the case of basket willows. In the next crop the shoots will be clean, long, and straight. From this crop select all the best rods, sharpen the root ends, trim off all the laterals, leaving the top or lead untouched, mark out the ground at the proper distances, and in straight lines, and push the rods 8 or 10 inches into the ground, tread firmly down, and the planting is completed; and at the minimum of cost—with the advantage that every tree grown from such a beginning will be long, clean, and straight, and all that is required after this is to see that the young plantation is not overpowered by any rank undergrowth. This species of willow (*S. alba*) grows well in Scotland, and many very large specimens now exist. In the park at the west end of Glasgow there are a few very fine examples, which have long since seen their best. Many of the river banks and shady glens in Scotland are well adapted to the growth of this species of willow, and would yield a handsome return to the grower. The willow as a forest tree has never received fair treatment, probably because it bears more ill usage without being destroyed than other trees. It has been found of great service as a pollard, and is chiefly found in that humble position. No wood finds a more ready market, nor is any in greater demand. It possesses advantages which no other tree does; it is light, smooth, soft, and tough; it takes a high polish in the lathe, and it does not easily burn; it will bear more pounding and hard knocks without splinter or injury than the wood of any other British forest tree; it is the best wood for the floats of paddle-steamers, strouds of water-wheels, break blocks for railway coal and luggage trucks, sides and bottoms of carts or barrows, where great wear and tear are required; and were it

grown as timber and easily obtainable, it would be used for very many purposes to which foreign timber is now applied.

The other species of willow named as a timber tree, *S. fragilis*, is also a vigorous grower, and will well repay the cultivator. The variety known as *S. Russelliana* is undoubtedly the best; but as it possesses no advantages over the *S. alba*, either in its adaptability to the climate of Scotland, nor in the rapidity of its growth, I do not advise any one to plant it—firstly, because the timber it is not so tough, and will not sell for so great a price; and secondly, the spread of the branches is so much greater than that of *S. alba* that it requires at least double the space to grow in; and thirdly, the branches are so brittle that after a high wind the ground is strewn with them, or the streams near where it grows are choked. For these reasons, and because it does not possess one valuable property as a tree that the *S. alba* does not possess in a higher degree, I do not advise any one to plant it with a view to profit.

#### BASKET WILLOWS.

Scotland is not distinguished as a willow-producing country, not because either the soil or climate is unsuitable, but because the subject has not received sufficient attention. Few countries in Europe of similar dimensions produce so small a quantity, or are so dependent upon foreign supply. The total area now under cultivation probably does not exceed 120 acres, and the year's produce would not supply the trade with more than a tenth part of its requirements. The deficiency is met by importations from Germany, Holland, France, Belgium, and England, the best qualities coming from England, chiefly the county of Nottingham, and the inferior from Germany and Holland. Willows for basket-making purposes, of large size, have been grown in Scotland, and prizes obtained for the same; and from personal observation I can testify that they can be grown of very excellent quality, and there is no reason why Scotland should not produce all she needs for her own consumption, and of a very superior quality to the greater part of what she now imports.

It is only within the last twenty years that willow cultivation has received the attention it deserves. Up to that time it was generally supposed that they would grow anywhere, and required neither care nor attention—"A willow was a willow and nothing more;" and it was thought only necessary to push a few cuttings (collected at random), into any swamp or useless corner, and leave them to chance in order to obtain a crop; and even now scores of water-logged patches are suffered to exist, with a few miserably starved willow stumps dotted about, the crops of which would not cover the cost of harvesting, and yet there are few crops will yield a better return when properly managed. But in

order to secure the best results many old and deeply rooted errors must be cleared away, not the least of which is that willows grow best in swampy undrained land.

The species of willows are very numerous, and much confusion exists in their classification. There are, however, only about six species, with their numerous varieties, that are of any commercial value, or worth cultivating, with a view to profit. Three of those species are essentially basket willows, and the other three are adapted for poles and timber trees, and they differ so much in character and constitution, that the treatment and soils adapted for one are very unsuitable for the others.

The three forms or species of basket willows most in use are *Salix viminalis*, *S. triandra*, and *S. purpurea*, and their numerous varieties, about sixty of which are in cultivation; but at least two-thirds of this number might be discarded with advantage to both grower and consumer.

As one of the conditions of this Report involves a description of the varieties recommended for cultivation, it must not be forgotten that the classification of the willow is not only a subject of dispute, but that it is in considerable confusion; and to enter into the minute details of the controversy would be impossible, within the limits of a short paper. It may therefore be considered sufficient if each form is so described that there can be no mistaking them.

Beginning with *Salix viminalis*, or the osier proper, the most important variety under consideration: This class may be easily distinguished by its long narrow leaf, widest near the base, but seldom exceeding three-quarters of an inch at its widest part; the leaves are slightly dentated at the edges, of loose texture, they are smooth above, and covered with a white, silky pubescence below, and are entirely destitute of stipules. The bark of the twigs is smooth to the touch and sweet to the taste. Between thirty and forty varieties of this species are now in my possession, differing much in the colour of bark, size of growth, toughness of wood, &c., but all may be known by the above description, and what is of equal importance, the description cannot be made to apply to any other species of willow. The six best varieties of the osier are known by the trades names of White osier, Brown osier, Merrins osier, Basford osier, Belgian osier, and Longskin osier, and this number is sufficient for all practical purposes of the basket-maker. The *S. viminalis*, or osier proper, is the best adapted of all willows to the rich soils found on river margins, where it is subject to occasional floods. It is a vigorous grower, very hardy, and must be well fed by the deposits of floods or by artificial irrigation, to maintain it in continued perfection; and it bids fair at no distant date to solve one of the questions of the present day, viz., the disposal of surplus sewage. Its capacity

for absorbing the same has already been tried with success upon several sewage farms;—Northampton sewage farm may be named as a good example.

The next group of willows used in basket making is *S. triandra*. It might be supposed that the name *triandra* was a sufficient guide to identification, but as the inflorescence of willows is too variable to be depended upon, a more simple and certain means of identification is necessary. There are a great number of varieties of this willow, more than twenty of which are under cultivation, but all may be easily recognised by the circumstance, that from three years old and upwards, they all annually shed their bark, and as this is not the case with any other willow, no one can fail to identify it.

The *S. triandra* yields the best results when planted in a rich loamy clay. It is a native of Northern Europe and very hardy in constitution. The wood is harder than the wood of the osier, and it is slower in taking root; but when it has obtained a good hold in suitable land, it will last longer without replanting, and under favourable conditions it is a very profitable willow to grow. The six best varieties to cultivate are known under the following trade names:—Brown Norfolk, Green Norfolk, Italian, Black German, Black Mule, and French.

The third group of basket willows, *S. purpurea*, is of more slender habit, and are more precarious to grow than those previously named; indeed, it may almost be said that none but professional willow-growers can deal with them profitably. They grow well in sandy loam, and will do moderately well in a gravelly soil. There are more than twenty varieties of this group, but only two that grow well in Scotland, *S. purpurea* and *S. Kirksii*; the latter is known by nurserymen under the name of Whipcord. The demand for this willow is somewhat limited, and it cannot therefore be recommended for general cultivation.

Having noticed the sorts of basket willow, and the most suitable soils in which to plant them, such essential matters as are applicable to all remain to be noticed. One of the first, and most important is, that no willow intended either for poles, timber, or for basket-work, can be profitably grown in sour swamp, or in water-logged land; and the careful observance of this must be regarded as the first condition in successful willow cultivation. No reasonable amount of flooding nor of artificial irrigation will injure willows, provided the water can get away, and not remain to become stagnant.

Another matter of importance is the careful selection of cuttings. When forming a new plantation not only is it advisable to have the best kinds, but it is of equal importance to take care that there is no mixing of different varieties. Not only each species, but each variety, must be kept distinct; any mixture of

sorts is fatal to success. Mixed basket willows, however good each sort may be, are of small value; besides, no two varieties grow precisely alike; one variety always overpowers the other, and uniformity of crop is destroyed.

Cuttings may be taken from either one or two year old twigs. If taken from one year olds, not more than three cuttings must be taken from any rod, however large it may be, for if large there is a risk of the top not being sufficiently ripe to grow; but if taken from two year old twigs, they may be cut up to the extreme growth of the first year. The recognised length for cuttings is twelve inches; the thick ones may be an inch or two longer, and the thin ones an inch or two shorter. They should be cleanly cut, without any splinter, and with one stroke of the knife.

The trade price for cuttings is 10s. per 1000 for mixed or unselected sorts, and 15s. per 1000 for guaranteed sorts.

The number of cuttings per imperial acre should range from 20,000 to 30,000. Professionals often plant many more, but the extra care involved by so doing would not do for general practice.

The following table of distances at which cuttings may be planted will be found well adapted for general purposes:—

*Salix viminalis*, 20 inches by about 16 inches.

„ *triandra*, 18 „ 15 „

„ *purpurea*, 16 „ 13 „

It is not always advisable to follow a hard-and-fast rule in planting; something in all cases must be left to the judgment of the planter. Therefore, in giving the above table of distances, it is with the idea, that a margin is left to the judgment of the person who has the work in hand. It may, however, be said that it is safer to err on the side of over close, than over-wide planting, when it is considered that the value of a basket willow depends more upon the twigs being long, straight, and clean, than it does upon their toughness and elasticity. All basket willows grow crooked, and covered with lateral twigs, when too much space is allowed; and for the same reason, they are not of much value when grown in long narrow screeds. To be good, they must be massed, and receive light and air from above, and not at the side.

In preparing the land for planting, much must be left to the superintendent of the work. Where steam power or horse power can be applied, it is cheaper than the spade, and quite as effective. The chief thing to insist upon is, that by whatever means it is done, the hard pan or subsoil must be broken up to a depth of 12 to 14 inches, and the surface brought into a good free mould before planting. The planting may be done at any time when the ground is free from frost, between the middle of November and the end of March. There are some advantages in early planting, but those advantages arise chiefly from having the work

well in hand, for if deferred, the spring frosts may necessitate the work being done under unfavourable conditions ; but in so far as the ensuing crop is concerned, it is of very little importance. When the land is in suitable condition the cuttings are easily planted. The palm of the right hand should be protected by leather, for the purpose of pushing them down to the required depth ; and when pushed in, the soil must be firmly trodden around them, taking care not to bruise or bark them in so doing. Many cuttings die from this being imperfectly done. I regard this as of so much importance, that I always appoint one man to attend to it, and at the same time to see that the work is neatly and uniformly done. The whole operation is simple ; each man will plant from 2000 to 3000 cuttings in a day, when he has got used to the work.

After planting, the land must be kept clear of weeds. This is especially important for the first two years, after which time less attention will suffice. But it must not be forgotten, that if a profit is to be made by growing willows, they must not be allowed to struggle for their existence against weeds.

The first or maiden crop of willows is seldom of much value ; but however poor the crop may be, it must be harvested or cut off ; for if it was allowed to stand over until the second year, the united produce of the two years would be nearly worthless. If the first year's crop be carefully cut, without disturbing the rooted cuttings, the second crop will be of considerable value, from which time there will be a gradual increase of value up to four or five years ; and should all circumstances be favourable, a plantation of *S. viminalis* should last (without re-planting) fifteen to twenty years, and a plantation of *S. triandra* twenty to twenty-five years, and a plantation of *S. purpurea* fifteen to twenty years. All willows for basket work should be cut as early in the winter as possible after the leaf has fallen. The knife used for cutting is shaped like a sickle, but not so large in the circle, and in using it, the cut is made from the ground upward, the left arm encircling, and the hand grasping the twigs whilst the cut is made. The grass and weeds must be shaken out of the twigs, before they are tied into bundles. If the grass and weeds are not shaken out, the willows are apt to mildew.

The size of bundle that is most convenient for moving about is 36 inches in circumference at the band. The bundles must be tightly tied, and the band should be twelve inches from the root ends. The appearance of the willows is much improved by neat and uniform tying, and extra care in this operation will not be thrown away when they are offered for sale. As soon as tied, they should be carried off the ground, and stood on end ; and in this state they are ready for market.

The entire outlay for willow planting, under ordinary circum-

stances, may be stated at £25 per acre for *Salix viminalis*, £30 per acre for *S. triandra*, and £35 per acre for *S. purpurea*, and when let by contract this is the usual price.

The current expenses attending cultivation will be as follows, under ordinary conditions:—

Weeding per acre, . . .	£1 0 0
Cutting and tying, . . .	1 10 0
Rent and taxes, . . .	2 10 0
Interest on outlay, . . .	1 5 0
Deterioration, . . .	1 5 0
Incidental expenses, . . .	1 0 0
	<hr/>
	£8 10 0

The value of willow crops will range from £10 to £20 per acre, according to the state of trade, and the seasons. Occasionally they are worth more than twice that amount. But I should not advise any one about to plant, to base their calculations upon extreme profits, lest disappointment ensue. A good return for the outlay may be relied upon in the average of years, and it may safely be said that few if any crops will give better results, provided the rules here laid down are duly observed.

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#### ON ANIMAL PARASITES.

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[*Premium—Ten Sovereigns.*]

IN the term "parasites" we must include all those animals which derive sustenance in any manner from other living animals—whether by dwelling in or upon the "host," or by merely paying it a passing visit. These are a very numerous class. They do not, however, form a separate or at all distinct division of the animal kingdom, but belong to all its branches, and are found on every class of animals. It will be impossible to do more than briefly notice the most important of them within the limits of a mere essay.

It is a very common belief that many animal parasites are generated by a diseased condition of the tissues of the host in which they reside; but a little acquaintance with the life-history of these creatures will prove the error of this opinion, and that the origin of the parasites is to be ascribed to natural, and not to physical causes.

In a popular classification, the simplest plan will be the best. Without any speculation on a variety of others which present

themselves with this object, I will, therefore, proceed at once to class animal parasites under six heads, as follows:—

1. Parasitic Worms.
2. Parasitic Mites.
3. Ticks.
4. Lice.
5. Fleas.
6. Parasitic Flies.

I do not, of course, by any means intend to imply that every parasitic animal can be included in these six classes, but they will be found to include all the principal ones that are as yet known. The others are either not sufficiently understood, or they are not of sufficient interest, to obtain a separate place in a popular classification. Of this number are the *Gregarinada*, the simplest animal forms of which we have any knowledge, and which are parasitic in the cockroach and the earth-worm; the rare forms of the parasitic *Mollusca*, viz., the *Stylifer*, which infests star-fishes and sea-urchins, and the *Synapta digitata*, a singular parasite of another *Echinoderm*; besides a few fishes which prey upon others of their class, and which are the only true parasites, I believe amongst vertebrate animals.

### 1. PARASITIC WORMS.

In this class are included the tape-worms (*Tæniada*), the flukes or suctorial-worms (*Trematoda*), the thorn-headed-worms (*Acanthocephala*), the hair-worms (*Gordiacea*), and the thread-worms or round-worms (*Nematoda*). All the five orders belong to the *Scolicida*, and in this formidable class are comprehended, with the exception of the “bots” or larvæ of the gad-fly, all the internal parasites, or at least the chief of those we are acquainted with. They give rise to many serious diseases, both in man and in the lower animals.

*Tape-worms* (*Tæniada*).—These internal parasites in their adult condition, infest the intestines of warm-blooded animals. Some of the worms are said to be 40 or 50 feet, or even more, in length. They are composed of a number of flattened joints which, however, do not really constitute the tape-worm, the true animal being found in the so-called head, while the joints are simply hermaphrodite generative segments, which the head throws off by a process of gemmation or budding. The term “proglottis” is applied to a single segment. The head is very small, and is furnished with a circle of hooks or suckers, by which the parasite fixes itself to its host, but there is no digestive system, not even a mouth, the nutrition of the animal being entirely effected by imbibition. In its development the



tape-worm exhibits a series of extraordinary transformations. In order to produce an embryo, the ripe joints must first escape from the bowel of the warm-blooded animal in which it was produced and the ovum swallowed by some animal of a lower type. In the *Tænia solium*, one of the tape-worms of man, for example, when a joint or ripe "proglottis" escapes from the bowel, the ova are liberated by the decomposition of the "proglottis," and it is easy to understand how one or more of them may be swallowed by a pig. When this happens, a "proscotex" is liberated from the ovum, and it bores its way through the walls of the stomach, and encysts itself in the muscles, when it becomes a "scolex," or cystic worm (*Cysticercus cellulosæ*), producing what is called "measles" in the pig. When thus encysted in the tissues of the animal, the "scolex" consists simply of a tænioid head, united by a contracted neck to a vesicular body. It remains encysted for an indefinite period, until perhaps a piece of the "measly pork" is eaten by a man, when it at once fixes itself to the coat of the intestine, develops into a tape-worm, and begins to throw off "proglottides," becoming thus the "strobila" of the *Tænia solium* with which we started. There are, however, a great variety of tape-worms, all inhabiting different animals. There are at least two common to man, the *Tænia solium*, just mentioned, as derived from the "measles" of the pig, or the cystic embryo form of the worm known as *Cysticercus cellulosæ*; and the *Tænia mediocancellata*, derived in like manner from the measles of the ox, but which is, happily, far less common. Similarly the tape-worm of the dog, *Tænia cœnurus*, is the mature form of the cystic worm of the sheep, *Cœnurus cerebralis*, and which causes the disease in sheep known under the various names of "sturdy," "gid," and "staggers." Several other tape-worms infest the dog; one, *Tænia serrata*, is common to both the dog and the fox, and is derived from the cystic worm found in the livers of hares and rabbits (*Cysticercus pisiformis*). The tape-worm of the cat (*Tænia crassicollis*) is derived from the cystic worm found in the livers of rats and mice (*Cysticercus fasciolaris*). A sheep affected with "sturdy" may often be successfully treated by trepanning, but, as a rule, although the life of the animal is saved, it is never worth much afterwards. The operation must be performed as soon as ever the skull softens over the spot where the cystic embryo lies, and while there is but one bladder in the brain. This is done by piercing the brain, and drawing off the liquid from within the cyst of the parasite through a canula, by means of a syringe, and then drawing out the bladder if it is possible.

**Flukes or Suctorial Worms (Trematoda).**—Some of these worms are parasitic upon the exterior, and others upon the liver and internal organs of sheep, birds, and fishes, &c. They are flat, or rather oval in shape, and never more than an inch or two in

length, while others of them are microscopic. The sexes are united in the same animal. Unlike the tape-worms, the flukes are never "cystic," the larvæ usually being found free and swimming in fresh water; but, on the whole, the source of these worms, and the complete stages of their development, is as yet but little understood. There are varieties of the parasite. The common fluke, *Fasciola hepatica*, infests most ruminants, including antelopes and deer; and it has also been found in the horse, the ass, the hare, and the rabbit. It is a rare guest in the ox, but very often infests the liver of the sheep in great numbers, when it gives rise to the disease termed the "rot." The treatment for this is the immediate removal of the sheep to sound pasture, where they should be well fed with dry, nourishing food, with a free allowance of salt and sulphate of iron, and, if needful, a purgative to keep the digestive organs in good order. The lancet-shaped fluke, *Distoma lanceolatum*, is a smaller one found in the ox more frequently than in any other host, but occasionally met with in the sheep, and more rarely in red and fallow deer. The cone-shaped fluke, *Amphistoma conicum*, is another small one, and is not only found in cattle, but in the sheep, the goat, red deer, roe, and fallow deer, the elk, and certain species of antelope. A species of the Amphistomes resides in the frog, and its larvæ either take up their abode in or dwell upon at least three different species of water snails. From this, and the fact that the larval Trematode is known as the free swimming *Carcarea diphcotylea*, it would appear to be pretty well established that cattle and other ruminating animals become infested with flukes in a direct manner, when they drink from pools and even running streams.

*Thorn-headed Worms* (Acanthocephala).—The parasites of this class are represented by a rare worm (*Echinorhynchus gigas*) which infests the intestinal canal of the pig, and also that of some birds, fishes, and other vertebrate animals. Like the *Tænia*, this worm is developed within a hooked embryo, from which it is secondarily produced.

*Hair-Worms* (Gordiaceæ).—These are small thread-like parasites, which in the young state inhabit the bodies of various insects, chiefly of beetles and grasshoppers. Others of them infest the livers of herring and fresh-water pike. The embryo of Gordius is armed with hooklets, and at first leads a free life, but soon penetrates the larvæ of some aquatic insect and becomes encysted. The adult form possesses a mouth and alimentary canal, and the sexes are distinct. The parasite leaves the body of its host in order to breed.

*Thread Worms* or *Round Worms* (Nematoda).—Most of this order, though not all of them, are internal parasites in man and in many other vertebrate animals. Chief amongst the parasitic Nematodes are the *Trichina*, the *Guinea-worm*, the *Strongyle*, the

*Oxyuris*, and the *Ascaris*. The *Trichina spiralis* is cystic in its sexually immature condition in the muscles of the pig, and in this state it is harmless, and incapable of further development until a portion of the trichinatus pork be eaten by a warm-blooded vertebrate, and so introduced into the alimentary canal, when the immature worm escapes from its cyst, develops sexual organs, and gives birth to numerous progeny. The young *Trichinae* thus produced, perforate the walls of the alimentary canal, and, working their way amongst the muscles, give rise to the painful and very often fatal disease known as *trichinosis*. The young worms then become encysted, and cannot become sexually mature or further developed until again transferred to the alimentary canal of some other animal. The Guinea-worm (*Dracunculus* or *Filaria medenensis*) inhabits, during one stage of its existence, the cellular tissue of the human body, generally attacking the legs, where it remains embedded for a year or more, after which it seeks the surface in order to breed. The development of the young *Filaria* takes place in water, from whence it is believed to gain access to the body of bathers and others. The thread-worm (*Strongylus filaria*) is the parasite which occasions the "lamb disease," by infesting the lungs of the animal. The worm bores its way through the soft lung substance into the bronchial tubes, where it causes the irritation symptomatic of the disease. The ova and young parasites are supposed to be taken up with the food in the first instance, and to gain access from the alimentary canal into the circulation, and thence into the lung substance, where they are encysted, until the parasite matures, when it pierces the tissues and enters the bronchial tubes, causing the disease just mentioned. Many of the worms remain encysted in the lungs unable to break through the capsule, and the lungs of old sheep are often loaded with them, but in the encysted forms they cause little inconvenience to the host. The best means of prevention are to feed the lambs on fresh, clean, and dry pastures, and when necessary supplement the grass with artificial food. Animals affected may be made to inhale sulphurous gas, by burning sulphur, with the lambs confined in a close building. They should be supplied with plenty of stimulating food, and 10 to 20 grains of sulphate of iron; each lamb, besides, having free access to rock-salt. Another worm of this class (*Strongylus micrurus*) produces the "husk" or "hoose" in calves, which strongly resembles the "lamb disease." The ova of this parasite is absorbed from the digestive system, the parasite penetrating to the pulmonary tissue and bronchial tubes through the circulation. The same worm has been found in the air-passages of the horse and ass; and a somewhat similar worm (*Strongylus suis*) has been found in the pig. The "grouse disease" is caused by *Strongylus pergracilis*, and "gapes" in fowls by

another parasite of the same class, *Sclerostoma gyngamus*. The treatment for "hoose" in calves is to have the animals warmly housed in a dry situation at night, and the affected calves, if any, removed from the healthy ones. Inhalations of sulphurous gas for about fifteen minutes should be given daily until the disease disappears, or, if inhalation is objected to, turpentine may be administered in gruel. The gregarious "maw-worms" (*Oxyuris curvula*) are common to the horse. Another parasite of this class (*Oxyuris vermicularis*), the "small thread worm," inhabits the rectum of man, especially of children. This is the smallest of the intestinal worms of man. A third worm of the kind (*Trichophalus dispar*) resembles the *Oxyuris vermicularis*, in inhabiting the large intestine of man. The common round worm (*Ascaris lumbricoides*) also inhabits the intestine of man. It attains a length of several inches, and is usually found in the small intestine, but sometimes in other situations. Another lumbricoid of a large size (*Ascaris megalocephala*) infests the intestines of the horse. As if connecting the parasitic with the free Nematoids, the *Ascaris nigrovenosa* in succeeding generations is alternately free and parasitic. This *Ascaris* inhabits the lungs of the frog; but the young are free, passing from the intestine of the frog into the moist earth, where they grow and develop in the course of a few days into sexually mature animals, the young of these again only attaining a certain stage of development in the earth, and not arriving at sexual maturity until they become parasitic in the lungs of the frog.

The *Lecches* ought also to be classed among the parasitic worms properly. They are not internal parasites, however, but live on or upon their host. They form the order *Hirudinea* in the class *Annelida*, of which class the earth-worms (*Oligochaeta*) are another order. The *Hirudinea* includes the common horse leech, and the medicinal leech (*Sanguisuga medicinalis*).

## 2. PARASITIC MITES.

The mites belong to the order *Acarina*, of the class *Arachnida*. Amongst the parasitic mites are *Acarus destructor*, a well known species which annoys the naturalist by feeding upon various zoological specimens; the *Hydrachnidæ*, or water mites, which are parasitic during at least a part of their existence upon water beetles, and other aquatic insects; the *Uropodo vegetans* and the *Gamasus coleopratorum*, both found on various beetles; the *Gamasus hilaris*, found on field mice; the *Dermanyssus Nitzzschii*, found in the nostrils of the goat-sucker and other warm-blooded animals; and the *Dermanyssus avium*, which infests domestic poultry, canaries, and other cage birds. But the most formidable mite parasite is the *Sarcoptes scabiei*, or "itch-mite," which is the

cause of the contagious skin disease of that name. The parasites burrow under the skin and live on serosity, the effusion of which is produced by the irritation which they excite. They are found not on man alone, but on the sheep, dog, ox, horse, pig, cat, and rabbit. Any animal may be the bearer of contagion between other two, but it is essential for the development of a real scabies on any animal that the insect should be proper to that animal. For example, the parasite which lives on the dog does not live on the sheep, and the parasite of the sheep will not contaminate man. Thus, while the "itch" in man is caused by *Sarcoptis scabiei*, the "scab" in the sheep is occasioned by *Dermatodectes ovis*; and the "mange" in horses by *Dermatodectes equi*, in the ox by *Dermatodectes bovis*, in the pig by *Sarcoptis suis*, and in the dog by *Sarcoptis canis*. A smaller species, the *Sarcoptis cati*, produces the "mange" on the cat and the rabbit.

### 3. TICKS.

The ticks (*Ixodidae*) are another family of the *Acarina*. As many as six British species have been described; but those principally met with are the "dog-tick" (*Ixodes ricinus*), and the "ked" or "sheep-tick" (*Melophagus ovinus*). The *Ixodes ricinus* is the true sheep-tick, and is commonly believed to give rise to the disease amongst sheep known as "loup-ill," but it requires to be proved. The tick breeds in the grass, and attaches itself to both the sheep and the dog, and even the ox, when it gets an opportunity, for the purpose of sucking their blood. The *Melophagus ovinus*, on the other hand, breeds upon the sheep, and the name "ked" or "sheep-louse" is more appropriate to it than that of "tick;" but it is very often confounded with *Ixodes ricinus*, although the two are totally different, as every one knows who has once seen them. The "ked" is to be found more or less in every flock, and if the sheep are not dipped at least once after shearing, the keds become very numerous during winter, and by the irritation which they excite, cause a great loss of wool, from the sheep tearing the fleece with its teeth or rubbing against the fences, not to mention the loss which accrues, by the animal itself not thriving when in that state of torment. Both the ked and the true tick are, however, easily destroyed and banished, or at least kept under, by any of the sheep dips that are now in use.

### 4. LICE.

These parasites pass through no metamorphosis, and their multiplication is extremely rapid. Most, if not all, mammals are infested by lice, each having generally its own peculiar species, and sometimes, as in the case of man, two or three. The *Pediculi*, or blood-suckers, of the class *Anoplura*, are those partial to man.

Another order of the same class, the *Mallophaga*, or feather and hair eaters, infest various birds, and also the horse and ox, each of them having its own species. The sheep "ked" ought perhaps to be placed in this class. There are other parasites, which, in a popular classification, cannot well be put under any other head, as, for example, the *Epizoa*, or fish-lice, those small *crustaceans* which are parasitic upon the bodies of other *Crustacea* and on fishes; and the whale-louse (*Cyamus ceti*), which belongs to another order of the *Crustacea*.

### 5. FLEAS.

The fleas (*Pulicidæ*) belong to the order *Aphaniptera*. There are two well known species. One is the common flea, *Pulex irritans*. In its larval stage it is an apodal grub, which in about twelve days spins a cocoon for itself, and becomes a quiescent pupa, from which the perfect insect emerges in about a fortnight more. The other flea is even a more troublesome creature. It is the "chigoe" of South America and the West Indies. It penetrates under the skin, generally under the toe-nails, where it leaves its larvæ to mature into chigoes, and if not dislodged they occasion very troublesome ulcers. On the sugar-estates in British Guiana, I have often seen as many as fifty, out of five hundred coolies on one plantation, laid up in hospital by ulcers from the effects of this very small flea.

### 6. PARASITIC FLIES.

The parasites of this class belong chiefly to the order *Diptera*, which includes the "blow flies" (*Musca*), the "gad-flies," *Æstridæ*, and "gnats" (*Culex*), with many others which need not be referred to here. The blow-fly (*Musca vomitoria*) is also termed the "maggot-fly" and the "flesh-fly." The larva of this fly, known as the "maggot" or "fly-worm," and not the fly itself, is the real parasite. It is very troublesome, especially amongst sheep, in sultry and moist weather. The fly deposits its eggs in hot weather on wet or dirty parts of the wool, and the ova are soon hatched, when the "maggots" burrow into the skin of the sheep, and if left unattended to for any length of time, will actually eat the sheep alive. A good remedy for the destruction of the maggot is a combination of one part of oil of turpentine to three parts of oil. The gad-fly (*Æstridæ*) is also known under the names of "cleg" and "bot-fly." The "bot," which is merely the larval stage of various species of gad-fly, is an internal parasite in the horse, ox, sheep, and other animals. The gad-fly attacks the animal, not for the purpose of deriving sustenance, but to deposit its eggs. The common gad-fly of the horse (*Æstrus equi*) in this manner deposits its eggs on the coat of the horse, where

the ova hatch in about three weeks, and the larvæ make their escape as maggots, to be next transferred to the mouth and stomach of the horse along with food and drink, where they occasion the severe disorder in the digestive organs of the horse known as the "bots." The larvæ adhere to the coat of the stomach by means of two large cephalic hooks until they attain their perfect growth, when they make their escape and bury themselves in the soil, in order to undergo the change from the "bot" state into the pupa condition. After remaining in the soil six or seven weeks, they come forth from their cocoon in the active life form of perfect dipterous insects. The bot-fly of the ox (*Estrus bovis*) passes through the same transformation, but, instead of the larvæ inhabiting the stomach of the animal, they burrow beneath the skin, where they give rise to "warbles," which are bots or tumours full of purulent matter, upon which the grub feeds. When the bots are mature they escape to the ground, where they bury themselves in the turf, and are transformed into the pupa stage, to emerge finally as perfect insects. The bot-fly of the sheep (*Estrus ovis*) inhabits the frontal sinus of its host, where it produces the disease known amongst shepherds as "grub in the head." The ichneumon fly (*Cryptus migrator*) belongs to another order, the *Hymenoptera*. This fly is parasitic in the larval state on others of its kind, depositing its eggs within the bodies of the other larvæ, which are entirely devoured by the ichneumon grub.

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#### ON RESULTS OF EXPERIMENTS WITH LIME AND VARIOUS ARTIFICIAL MANURES.

By THOMAS LAWSON, Sandyford, Kirriemuir.

[*Premium—Medium Gold Medal.*]

As an introduction to the subject of my report, I may mention that the extent of my farm is about 250 acres, and is situated 300 feet above the level of the sea. The soil consists partly of free black loam, with clay and gravel subsoil, and also a considerable extent of thin black moor soil, with pan subsoil, on which latter portion whins and heather grew quite naturally, along with the second year's grass, only ten years ago. The farm has been laboured in the five-shift rotation of cropping for the last thirty-three years,—that is, two grass, two cereal, and one root crop, unless, of course, what portions may have been reclaimed from waste during the period mentioned. Previous to 1868, turnips could not be grown without on an average one-half of the crop being destroyed with "finger-and-toe." Potatoes also were very much subject to disease. The grass too got thrown

out in early spring, and afterwards came away thin and unhealthy. Cereals were generally more or less drowned in a wet season, owing to the undrained, and therefore wet state of the soil, and also to the panned and hard nature of the subsoil tending to keep up the surface water. The soil was in such a condition with bottom water that any manure applied to it was partially lost. It had never been ploughed deeper than from five to six inches, according to the nature of the soil and subsoil.

Such was the condition of the farm previous to 1868, about which time I obtained the direct management and supervision of it, and when I had the opportunity of draining it at a cost of  $6\frac{1}{2}$  per cent. on the outlay. Accordingly, in 1868 and 1869 I drained the entire farm, at a cost of £1300, or about £5 an acre, and after draining I subsoiled and trench ploughed it, from three to five inches deeper than it had been previously ploughed, of course cleaning out the stones as I went on. This style of ploughing I confined entirely to my fallow break, thus taking five years to get over the farm.

I shall now proceed to take up the subject of my report, and state the different ways in which I have applied lime, and the various effects on the succeeding crops. I have always used North Sunderland lime, and have applied it in quantities varying from 2 to fully 4 tons an acre, according to the nature of the soil to which it was being applied. I shall classify in order of merit the different methods as I have proved them, with a brief description of the *modus operandi* of each.

I. After ploughing the fallow break in autumn, as soon as convenient after the removal of the oat crop, give the furrows a double turn of the harrows as early in spring as the condition of the soil will allow, in order to level the furrows and leave a smooth surface. The lime shells are then laid down in heaps, six yards apart, and if the soil is in a very damp condition on the surface, cover the heaps up with it immediately when laid down, and they will be in condition for spreading in the course of twenty-four hours; but if the soil should not be sufficiently damp, take a water-cart and apply water to the heaps with a pail. A labourer should be following immediately behind, covering them up with soil, to keep the steam from escaping, and to get the lime down to a nice powder, as uncovered it would simply come down to a small churl, and not swell up into the nice mechanical condition it does when covered; besides, the covering of earth gives more of a body of material to spread, therefore allowing the spreader a better chance of putting it on equally. I have found 1 ton of water do from 2 to 3 tons of lime, and have always made a point of spreading it as soon as could be thereafter, that it might lose as little of its causticity as possible from exposure to the air, or perhaps rain, thereby rendering it unfit for



spreading. Immediately after spreading, grub it with three horses across the plough furrows, then give it a double turn of heavy harrows thoroughly to incorporate it with the soil.

II. Mix up lime shells with weeds, spare soil on high headlands, scrapings of roads, and other refuse, &c.; turn them over once or twice, oftener if necessary, to get the mixture into a fine mechanical condition; apply it to grass early in spring; and spread it immediately, when heaped; and as soon after as it is perfectly dry, give the land a rub of light chain harrows to break down the lime, and pack it in close to the roots of the plants.

III. Applying lime shell to the break that is to be sown down with barley or wheat and grass seeds, after it has got the seed furrow, observing the same rules as in No. I. for putting on and spreading the lime, but only grub, if necessary, after the lime is spread. In some cases a turn or two with heavy harrows is all that is required before drilling in the seed.

IV. Putting on lime in shell previous to ploughing for barley or wheat, observing the same rules of application as in No. I., and ploughing it down with a light furrow, and either drilling in the seed or sowing it broadcast.

V. Applying a composition of lime and earth, the same as in No. IV., and to the same crops. In applying lime this way I have often put on town or farm-yard manure, but have always made a point to put them on separately.

I have carefully studied the above modes of applying lime, and upon comparing results I must say that the first method is decidedly superior to any of the others, for applying lime in shell. By that mode the lime is applied in a hot state, as well as in a fine mechanical condition; it is thoroughly mixed up and incorporated with the soil, and it is of decidedly more advantage to the turnip crop, greatly helping to prevent "finger-and-toe" disease, although not entirely doing so. Besides showing a decided improvement in the general appearance and bulk of the turnip crop, it also shows very favourably upon the following cereal and grass crops, and particularly making the grass come earlier in spring, compared with that of the land without lime. The only disadvantage I have noticed with this method is, that when applied late in April, and shortly before the turnip crop is to be sown, it is apt to burn out spots of the young braird in a dry season if not carefully spread.

The second method has given splendid results, but only in the lighter class of soils of a moory description, as applied to young grass early in spring. Of course, the road scrapings and other manurial ingredients contained in the compost contributed largely to the results. The compost, when properly broken and harrowed in with the chains, tends to protect and nurture the weakly grass plants which have been partially thrown out by the frost, and by

midsummer a marked difference is quite visible between the healthy green plants of the limed grass and the sickly appearance of those without. The second year's grass also comes away close and thick, and the oat crop which follows shows the same healthy symptoms. But applying the compost to second year's grass early in spring gives the best result in the following oat crop, if applied in the same manner as already described. I have noticed a difference of at least eight or ten bushels per acre between the limed and unlimed portions. It is only on my light moory soils, where grass was inclined to thin out in spring, that this method has proved most profitable to me. On other classes of soil the first method is decidedly preferable. The third method does not appear to do much good to the cereal crop it is applied to. It tells well, however, on the grass crop which follows, but not equal to the compost application I have already described, while it labours under the disadvantage of No. I. in a twofold degree. The grass seeds are necessarily sown with the cereal crop to which it is applied, and if not very carefully spread, which is rather difficult to do, it is apt to burn out spots both of the grain and the grass. The fourth and the fifth methods of ploughing in either lime or compost I have found much inferior to any of the others mentioned. They show very little indeed in the cereal crop to which they are applied, and even not much in the succeeding grass crop until midsummer. They are inferior to any of the other ways with respect to the second year's grass and the lea oats, but show certainly an improvement in the lea oats, compared with non-limed portions. The order of merit as given is the result of careful experiments and comparisons, extending over eight years, in some of which I have applied nearly 200 tons of lime in all the various ways mentioned.

*Oats after Grass.*—The quality of my soil necessitates the use of some stimulant for this crop, if one is to grow a fair return as the result of his labour, to leave a sufficient margin of profit to meet the rent and pay working expenses. To grow an inferior crop simply means loss. The variableness of the soil in all my fields renders it very difficult to arrive at a correct estimate of the difference between the various artificial manures as applied to the crop. I have been experimenting, however, with various manures, and mixtures of them, for the past ten years, and shall endeavour to give the results of my experiments as closely as I can. I may mention that I have always made a point of having all manures used by me analysed from bulk immediately after delivery. All the analyses to be referred to in this report are as ascertained by my own chemist. I could calculate therefore on the articles used as being what they were represented to be. As this report would be too much lengthened were I to go over all the experiments, I will place the manures, or mixtures of them, in order of merit in

a tabulated form, with average analyses of the various manures, the cost of each for net cash delivered, and the weight I have found it profitable to apply:—

Description of Manures.	Cwts.	Nitrogenous compounds = to ammonia.	Total of Phosphates.	Weight per acre applied. Minimum and Maximum in cwts.	Price per cwt. net cash.
I. Sulphate of ammonia, Dissolved bones, . . 35% superphosphate,	1 1½ 1½	7·50	26·00	2½ to 4	10/3
II. Peruvian guano, . . Dissolved bones, . .	2 2				
III. Peruvian guano, . . 35% superphosphate,	2 2				
IV. Peruvian guano, . .		10·00	28·00	2 „ 3	13/
V. Nitrate of soda, . . Dissolved bones, . . 35% superphosphate,	1¼ 1½ 1½	7·00	26·00	2½ „ 4	10/3
VI. Dissolved bones, . .					
VII. 35% superphosphate,					
		3·00	35·00	3 „ 5	8/
			35·00	4 „ 5	6/

By using the first four of the manures above specified, I have reaped from twelve to twenty-four bushels of oats per acre more than from the plots left without manure, and the crop was always a week or ten days earlier harvested, more equally ripened, and a better quality of grain, with fewer seconds amongst it. Notably in 1874 the plot left without manure was almost totally ruined with grub, and the manured portion next it (Peruvian guano, 3 cwt.) came away splendidly, with hardly a single plant touched with grub. The earlier part of the season was comparatively dry, and a heavy fall of rain in May was followed by a very hot dry summer. The unmanured portion became of a yellow sickly colour as soon as the plants had exhausted the food contained in the kernel of the seed, and, ere the tender rootlets had had time to extract sufficient nourishment from the soil to strengthen the fibres against the grub, that pest had the plants almost all cut over. So far as crop was concerned, it was practically a failure. The manured portion, however, kept bright and green, threw out its second leaf strong and healthy, and kept on growing. For this year's crop (1878) I manured with No. I. mixture, at the rate of about 3½ cwts. per acre, and although the grub was very plentiful in the field, my crop remained comparatively uninjured, and has turned out a very heavy one, and of splendid quality.

So thoroughly do I believe that artificial manure with oats pays, that I have ceased during the past two years to keep an unmanured plot. Some of my neighbour's fields, however, immediately adjoining mine, which had been sown without manure, were very much cut up with grub. I do not mean to infer that a liberal use of nitrogenous and phosphatic compounds will entirely prevent the ravages of grub, but it will go a very far way to do so. I could with no certainty state the exact difference in bushels on an average of seasons, of the crops grown by the various manures and mixtures of them I have enumerated, but will endeavour to give a general idea of the effects they have had on the crop.

The mixture No. I. has always given me the best results, both for straw and grain. It has been equalled once or twice by the results of mixture No. II., but never excelled.

The mixture No. II. makes the crop come away as well at first as No. I., but it does not generally stand out quite so satisfactorily towards harvest, and as a rule has given less bulk of straw. If sulphate of ammonia and Peruvian guano were equal in value so far as regards a source of ammonia, I would decidedly prefer sulphate of ammonia to guano, as being a more uniform and trustworthy source, and not so liable to waste as guano.

The mixture No. III. has given results something similar to No. II., but after a wet spring it apparently does not stand out so well during summer, especially if the season is a dry one.

No. IV. (Peruvian guano) brings away the crop, to start with, best of any of the manures in the list, and may on heavy clay soils be the best manure to use; still on my free and light muirish soil it has always inclined to grow the straw shorter and softer, and in bad weather, when the grain is shooting into ear, that grown by the guano would fall down, while that grown by any of the other mixtures, though quite as tall, would stand firm and strong. When threshed out, the latter would give a better yield, with fewer seconds, and 2 lbs. a bushel more weight than what was grown with the guano. I have given guano a more extended trial than any of the other mixtures named, and have come to the conclusion that its proper place is fourth in order of merit; although in firmer soils, containing a larger percentage of alumina and phosphoric acid, it may be used with advantage, and in preference to any other artificial manure.

The mixture No. V. (nitrate of soda, dissolved bones, and superphosphate). Unless the last two named manures are in a very fine dry condition, it is better to apply them with the seed, and to apply the nitrate of soda separately, about a fortnight after, when the grain has begun to show above ground. If the latter is mixed up with the phosphatic manures in a raw condition, the free acid combines with the nitrate and forms sulphate of soda

simply destroying a large portion of the valuable nitrate, so far as manure is concerned, besides turning the mixture into so wet a mortar, that it cannot be properly spread over the soil. Although the phosphatic manures are in really very good condition, they should never be mixed with the nitrate of soda until they are to be applied to the soil, as there is always more or less free acid in these manures. I used this mixture pretty extensively for several years, owing to the low price of nitrate in the market, but it gave so uncertain results that I have ceased to use it for the last two seasons. In a wet spring it did not do well, and the results, when the grain came to be threshed, were even worse than those shown by guano. In a dry spring a great bulk can be grown with it, but the grain is both light in weight and of indifferent colour.

No. VI. (dissolved bones) does not bring the grain away so well at first, and gives the grub, when that pest is prevalent, a better chance of committing havoc amongst it. Unless in a very wet season, it grows less bulk of straw and grain than any of the others, but what does grow is of the finest quality and weight of any.

No. VII. (superphosphate of lime) is not at all suited as a fertiliser for oats when used by itself on my soil, and the results are very little better than no manure at all, thus showing conclusively that oats require some nitrogenous compound to stimulate them in the earlier stages of their growth.

During the years I have been conducting these experiments, I have always sown my manures on the plough furrows before harrowing, and have sown my oats with a six-inch seed drill, at the rate of  $3\frac{1}{2}$  to  $3\frac{3}{4}$  bushels per acre.

*Barley.*—In the five years' rotation in which I work the farm, this is a very important crop, as the grass seeds have to be sown along with it, and something more is necessary than merely to grow a good crop of barley, for the succeeding two years of grass must be taken into account, and what is likely to benefit them be applied at the same time. I have found barley to be a very easily forced crop, but have had some difficulty in finding a suitable mixture, which would grow a fair crop of barley and do good to the succeeding grass crop the year following. I have found that nitrogenous compounds have to be applied a little more sparingly than with oats, or else the barley is grown very rapidly and too soft in the straw, thereby lodging and rotting out the grass, besides damaging the grain. I have never used any potash with barley mixtures, as I always apply it with root crops, where it has the chance of getting better incorporated with the subsoil.

I have found the following mixtures of manures, after repeated experiments, suit best for the double purpose of growing the barley crop up to a fair average, and also forcing the grass the season following:—

Description of Manure.	Cwt.	Ammonia.	Total Phosphates.	Cwts. per acre.	Price per cwt.
I. Sulphate of ammonia, Dissolved bones, . . Bone meal, . . . .	$\frac{1}{2}$ 2 2	} 5.85	38.70	$2\frac{1}{2}$ to $3\frac{1}{2}$	$9/7\frac{1}{2}$
II. Peruvian guano, . . Dissolved bones, . . Bone meal, . . . .	1 2 2	} 4.80	39.30	$2\frac{1}{2}$ „ $3\frac{1}{2}$	$9/2\frac{1}{2}$
III. Dissolved bones, . . Bone meal, . . . .	1 1	} 3.50	42.00	3 „ 5	8/3
IV. Dissolved bones, . .		3.00	35.00	3 „ 5	8/
V. Peruvian guano, . . Bone meal, . . . .	1 1	} 7.00	39.00	2 „ 3	10/9

The above-named manures have given the best results as applied to barley sown with grass seeds, where no farm-yard nor city manure was used along with it. As I have already stated, barley is very easily forced, and the difficulty is to do justice to the succeeding crop of grass without forcing it too much. It would be a simple enough matter on heavy soil, but is very difficult on free light soils, where so much depends on the stimulants and the season.

Any of the five mixtures of manures I have named do very well, but I would give preference to the first two, and between them it is merely a matter of cost. The third and fourth on the list do not generally insure so heavy a crop on an average of seasons, being more especially deficient in a cold wet spring, but both of them grow the grain of very good quality. The fifth, on an average of three seasons when I used it, did not turn out very satisfactorily, either for grain or first year's grass. The barley, although starting very well, grew too soft in the straw, and not so good a quality of grain. With all my experiments with bone meal, I have come to the conclusion that it does far less good the first season than is generally supposed, the phosphates and ammonia not becoming available as plant food nearly so soon as where treated with sulphuric acid. The first four mixtures have given results nearly alike on an average of seasons so far as grass is concerned, and the barley grown with these manures, as compared with the unmanured plot, was in several seasons double that grown without manure, and even when the unmanured portion came closest up there was margin enough left to pay the artificial manure applied twice over. In fact, my firm conviction

is, that to take an average of five years in which I tried a plot without manure, that it did not grow crop sufficient to pay labour, seed, and rent. On the deeper and better portions of my soil the unmanured portion came away better, but there also there was left plenty of margin for showing that judicious forcing will pay best.

I have no hesitation in saying that the artificial manures I have applied to barley have paid me at least double. Of course, I varied the quantities according to the nature and condition of the soil to which it was being applied, and I do not reckon the bone meal I may have put on for the grass, though in some cases it was in excessive quantity.

I will now state my experience of this crop with farm-yard manure, and the comparative results between it and artificial; also the results of farm-yard manure with a nitrogenous manure used along therewith. I have very seldom given farm-yard manure to barley after the turnip crop, as the turnips are always very heavily manured, and the tops left on the ground when the turnips are pulled, which I set down at least as equivalent to five tons of farm-yard manure per acre, as compared with driving them off. On a farm such as mine, where the half of the fallow break is under potato, there is always a good portion of it unsuitable for wheat, I therefore apply from ten to twenty tons of city or farm-yard manure to it, and sow down with barley.

The following table will show, as nearly as possible, the average expense of manuring with farm-yard and city manure in equal proportions and the cost of application, showing also the cost of three different mixtures of manufactured manures as used against it, and guano used with it:—

I. 15 tons of farm-yard manure @ 8/ per ton,	£6	0	0	
Cost of cartage and spreading @ 2/6,	1	17	6	
				£7 17 6
II. The same as No. I.,	7	17	6	
1½ cwt. of Peruvian guano,	0	19	6	
				8 17 0
III. 8 cwt. bone meal @ 8/6 per cwt.,	3	8	0	
1½ cwt. Peruvian guano,	0	19	6	
				4 7 6
IV. 6 cwt. of dissolved bones @ 8/,	2	8	0	2 8 0
V. 5 cwt. of No. I. mixture, mentioned in the barley,	...	...	...	...
List of artificial manure @ 9/7½,	2	8	1½	2 8 1½

No. II. gave by far the best results of any of the five. The guano, added to the farm-yard manure, started the barley and kept it growing until its roots got a hold of the dung, which was

necessarily deeper in the soil than the guano, and, as compared with farm-yard manure alone, the grass came away fully as fresh next spring, but by midsummer there was very little difference, and the effects on the succeeding crop were pretty much alike. With regard to the artificial manures above, as compared with the farm-yard manure with and without its assistance, I found that No. III. gave the best permanent results. Nos. IV. and V. were about equal. Any of these three would give eight bushels of barley per acre more than the farm-yard manure alone, but farm-yard manure along with guano was equal for barley. I would set down the different effects of each in the succeeding crops as follows, tabulated according to the list already given, and showing the deficiency in money value as compared with the one which gave the best results, namely, No. II. :—

	I.	II.	III.	IV.	V.
	£ s.	£ s.	£ s. d.	£ s.	£ s. d.
Barley, . . . . .	1 18	...	...	...	...
Grass, 1st year, . . . . .	...	...	1 0 0	1 10	1 10 0
Grass, 2d year, . . . . .	...	...	1 0 0	1 5	1 5 0
Oats, . . . . .	...	...	0 10 0	0 15	0 15 0
Total deficiency, . . . . .	1 18	...	2 10 0	3 10	3 10 0
Additional cost of manure, .	7 17	8 17	4 7 6	2 8	2 8 1½
	9 15	8 17	6 17 6	5 18	5 18 1½

According to the above results, the fourth and fifth are the most profitable; although so much deficient in their results, their first cost is so much less, that it leaves a large balance in their favour. I have sown none down after potatoes for the past three years without farm-yard manure, because I look on potatoes as being a very exhausting crop for light soils, and despite the result of the experiments, I have a hankering after farm-yard manure, the good effects of which are not exhausted by the first three succeeding crops; but in the various experiments I have made, it has always paid to use artificial manure along with it for a grain crop. I sow the whole of my barley with a six-inch drill, as near the surface as possible to be covered, the quantity of seed used being at the rate of three bushels per acre. A fine mechanical condition of manures and soil, and a dry seed bed, are far more important with barley than with oats, as the plant is much more tender. Care should, therefore, be taken in districts liable to hoar-frost, not to sow too early, as the plant gets frosted down and is very difficult to start again. For this



crop too much care cannot be taken, especially neither to plough nor sow if the soil is in a wet condition.

*Wheat.*—I have never depended much upon manufactured manures for the growth of this crop. I have always given it from fifteen to twenty tons of town or farm-yard manure, with a top dressing in spring of 1 cwt. of nitrate of soda or 2 cwt. of guano, both of which when added have had a marked effect, and on the thinner soils both pay very well. The guano, however, is preferable for quality of grain. The nitrate is inclined to make the crop a little later, and the grain a shade darker in colour; but when straw is wanted, both of them give at least a fourth part more on an average of seasons.

*Turnips.*—This crop, as I mentioned in my introductory remarks, was almost a total failure previous to 1868 on my farm, on account of “finger-and-toe.” Previous to that time only a very small breadth of the fallow break was planted with potatoes, and of the portion sown with turnip a very small proportion was swedes. This treatment, together with the then wet state of the soil, I have no doubt contributed greatly to foster that great enemy of the turnips. After draining, I set about growing the half of my fallow break in potatoes, and substituting swedes where yellows had been grown five years previously, and yellows where potatoes had been grown. This system of management, together with the liberal use of hot lime, has apparently banished “finger-and-toe” from the farm, as I have seen none of it on my land for nearly ten years, unless now and again on a headland which had been carted on in wet weather, or in what had been a dung stance. I give to the whole of my turnip crop from fifteen to twenty tons of farm-yard manure, applied in drill immediately before sowing the turnips, and all my experiments with artificial manure, as applied to turnips, have been along with that quantity of farm-yard manure.

In the first place, I may state I could hardly get turnips to come to hoe in my soil without the application of some nitrogenous compound above the farm-yard manure. I have tried it several times, and in every case had not half my ordinary crop, and besides, it was much later. In some instances, indeed, the young braird was so unhealthy that it died out altogether during trying weather. Even in the best seasons the turnips without nitrogenous manure were from two to three weeks behind those to which it had been applied in being ready for the hoe. I have tried a great many experiments with manure for this crop, in order to arrive at the proper quantity of nitrogen, phosphates, and potash which a turnip manure ought to contain. I shall give a list of four mixtures which have given me the best results, with their average cost and quantity applied.

Description of Manures.	Cwt.	Am- monia.	Total Phos- phates.	Potash.	Quantity applied, cwts.	Price per cwt.
I. Fish guano, . . .	2	} 3·00	21·10	7·50	5 to 6	7/6
Superphosphate, . .	2					
Dissolved bones, . .	2					
Sulphate of potash, .	2					
II. Sulphate of ammonia,	1	} 3·35	19·50	7·50	5 „ 6	7/6½
Superphosphate, . .	3					
Dissolved bones, . .	2					
Sulphate of potash, .	2					
III. Peruvian guano, . .	2	} 2·88	25·60	7·50	5 „ 6	8/2½
Superphosphate, . .	3					
Dissolved bones, . .	2					
Sulphate of potash, . .	2					
IV. Nitrate of soda, . .	1	} 2·77	19·50	7·50	5 „ 6	7/1½
Superphosphate, . .	3					
Dissolved bones, . .	2					
Sulphate of potash, .	2					

I have found these mixtures give very good results. I have tried double the ammonia contained in any of them, and found it grew a large “flush” of shaws, rough at the neck, with small, fibrous, and not nearly so nicely “fleshed” bulbs as the turnips grown by any of those mixtures mentioned in the list. I have also tried superphosphate along with farm-yard manure, without the addition of any nitrogenous compound, but found they came very slowly to the hoe, and did not bulb nearly so well. The source of ammonia is pretty much a matter of cost, but I would prefer fish guano to any of those I have mentioned in the list, if the prices were equal. I have only tried it two years, but found that both season 1877 (which was a very trying season for the crops) and season 1878 it has given capital results. It contains 9 per cent. of nitrogenous compounds, and 14 per cent. of phosphates, at a cost of 9s. per cwt. delivered. The chemist who analysed my samples reported both nitrogen and phosphates to be in a fine condition, so as to be readily assimilated by the plants. I have tried it both years against Peruvian guano and sulphate of ammonia, and found that the turnips manured with it came away quite as fast at first as the other two, and when the crop was grown little or no difference could be detected. I have given up using nitrate of soda for turnip mixture, as I have found it rather inclined to run the turnips too much to shaw, and to grow the bulbs softer, with a tendency to dry rot.

I have applied artificial manure in various ways to this crop,

but have always found that sowing broadcast over the drills, after the farm-yard manure had been spread, gave the best results, then drill up and sow as soon after as possible. Regarding the potash mixture, so far as turnips are concerned, I could never detect much difference in bulk of crop, but the turnips seemed to be quite as healthy and kept green in the shaws longer in autumn, more free from dry rot or any other kind of canker, and the clover in the succeeding grass crops was healthier and stronger. I shall mention more fully my experience of potash salts when reporting on the potato crop.

I have two fields under root crop this season, and as each of them is an average of its own class of soils on the farm, I had them carefully sampled and analysed this spring, with results as under noted. No. I. is a soft brownish-black loam; No. II. is a thin muirish soil on a clay, and some parts pan gravel subsoil:—

Solution in hot Hydrochloric Acid contained—	Dry Samples.	
	No. I.	No. II.
Stones, . . . . .	0·00	15·41
Organic matter and carbonic acid, . . .	12·48	9·84
Sand, . . . . .	76·42	83·09
Soluble silica, . . . . .	0·13	0·19
Peroxide of iron, . . . . .	3·81	2·36
Alumina, . . . . .	5·22	3·02
Lime, . . . . .	0·64	0·36
Magnesia, . . . . .	0·35	0·41
Potash, . . . . .	0·26	0·27
Soda, . . . . .	0·17	0·12
Chlorine, . . . . .	0·04	0·03
Sulphuric acid, . . . . .	0·38	0·24
Phosphoric acid, . . . . .	0·10	0·07
	100·00	100·00
Nitrogen equal to ammonia, . . . . .	0·578	0·442

These two fields have been limed since they were drained, at the rate of about 3 tons an acre, and generally treated for the past ten years as I have previously described in the different modes of manuring my various crops. The one is about the most productive, while the other is about the most unproductive field on the farm.

I now come to the other, and to me less important division of my root crops, namely, potatoes. I always apply farm-yard manure straight from the yards to this crop, at the rate of from ten to fourteen tons an acre, and all the experiments I have

made with manufactured manures for this crop have been made along with that quantity of farm-yard manure.

The potato is more of a season or sun plant than the turnip, and, very unlike the latter, often gives better results on thin light soils than on deep heavy loam. I have tried a great many experiments with artificial manures for this crop, and am still experimenting. I have found potash a very necessary manure. I have tried muriate of potash, sulphate of potash, and kainit salt, value for value, and all three with the same weight of nitrogenous and phosphatic manures applied with them. The muriate gave no better results than the nitrogenous and phosphatic manures alone, in three successive seasons. Sulphate of potash the same three seasons gave 17 cwts., 27 cwts., and 19½ cwts. more potatoes per acre respectively, than where no potash was applied. The kainit gave on an average of the three seasons barely 7 cwts. per acre more potatoes than without potash. The muriate was applied at the rate of 2 cwts. per acre, the sulphate to fully that quantity, and the kainit salt at 5 cwts. per acre. The manures used alongside were dissolved bones, containing 3 per cent. ammonia and 35 per cent. of phosphates, at the rate of 2 cwts. with potash and 4 cwts. without potash. So far as regards expense, the cost was equal, therefore any extra crop was profit. Last year, and this year also, I tried both larger and smaller quantities than what I have already mentioned, but have found that 2 cwts. of sulphate of potash is quite as much as will give good results. Upon the field of lighter soil, of which I have given the analysis, I had my best results with 1½ cwt. per acre.

A peculiarity occurred this year (1878) in regard to the use of potash as a potato fertiliser, which I think worthy of notice. I top dressed a portion of my No. I. field with 2 cwts. of potash salts (sulphate) and 2 cwts. of dissolved bones, another portion immediately adjoining with 4 cwts. dissolved bones. About the beginning of July the potato tops of the plot without the potash began to lose colour a little, and look stunted, while those with the potash kept a bright healthy green. Later in the season the difference was still greater, lots of the tops of the dissolved bone lot were almost withered down, while those of the potash manured portion were immensely strong, tall, and healthy. When lifting them I found a great deal of second growth and lots of small potatoes amongst the dissolved bone portion, while the potash portion showed a fine bold sample, with no second growth or scab, and at the least computation, 1 ton 15 cwts. an acre heavier crop. The difference in money value, taking into account the difference of quality as well as quantity, would be about £6 per acre at present prices. (The crop was of the Champion variety.) The potash manured division was lifting about ten tons an acre. I never before noticed so much difference

in the tops as I did this season. The extra dry summer may account for it. The potatoes were planted in the last week of March. The nitrogenous and phosphatic compounds I have found best suited for potato growing are as follows:—

Description of Manures.	Cwt.	Ammonia.	Phosphates.	Rate per acre applied.	Price per cwt.
I. Fish guano, . . . .	1	} 3·00	28·00	2 to 3½	7/
Superphosphates, . .	2				
II. Dissolved bones, . .	...	3·00	35·00	2 „ 3½	8/

The above gave similar results, when applied value for value, with the addition of 1½ to 2 cwts. of sulphate of potash per acre. I have found a more liberal application of nitrogenous or ammoniacal compounds has done more harm than good, rushing up a lot of tops, thereby keeping out the air, and preventing rooting until too late in the season, with the result of growing a less crop instead of a larger, besides the extra cost of manure. I have found it very difficult to arrive at a right estimate of the proper quantity or quality of manure to apply to potatoes, as so much depends on the weather during the season they are grown.

The subject of my report has mainly to do with lime and manufactured manures; but I may mention a few facts in connection with the general treatment of the farm outside of these, before giving an approximate comparison between what it was and what it now is in regard to productive power. During the past ten years I have driven over 200 tons of slaughter-house, stable, and town manures each year, besides using all the produce of the farm with the exception of grain and potatoes. I have also used a large quantity of cake annually for cattle feeding. I have found that with the addition of lime and artificial manure to the treatment narrated, the productive power of my farm has been increased by from 60 to 70 per cent. taking an average of the past five years, as against five years previous to 1868. The farm has got to be a comparatively early one now, not only for grain in harvest, but also for grass in spring. Previously it used to be one of the latest in the district, and it is now one of the earliest, if not the earliest altogether. The lime and manure bill is three times as much, and the working expenses twice as much, during the past five years as they were in the corresponding period prior to 1868. I have found that it requires a great outlay of capital to improve third class soils, and the returns are very slow and not nearly so sure as on better class of soils. I may mention

here, although it is a little outside my subject, that it would, in my opinion, be for the mutual benefit of proprietor and tenant were an arrangement come to several years before the expiry of a lease to renew the contract. It would save that obnoxious process generally known as the "starvation process."

In concluding, I would like to mention one or two points of importance which I have learned by experience in buying and using artificial manures, viz.—(1) Buy only on a guaranteed basis of so much a unit for the manurial ingredients contained in the manure; (2) mention a chemist as referee before buying, in case of dispute; (3) buy direct from the importers or manufacturers; (4) it is always much more satisfactory to deal with a known and respectable firm; (5) the best bargains can generally be obtained for net cash, as the discount is always large for cash; (6) where mixtures are wanted, buy the different ingredients and mix them up for yourself, as you will, as a rule, then have them in better condition for sowing; and lastly, a great deal depends on having the manure in a nice state of division, and in getting it equally spread over the soil, as well as in getting each crop put in at the right time, the soil free from weeds, and, above all, dry.

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#### HISTORICAL ACCOUNT OF THE VETERINARY DEPARTMENT OF THE HIGHLAND AND AGRICULTURAL SOCIETY.

THE Highland Society having just concluded an agreement with the Royal College of Veterinary Surgeons, whereby the Society's Annual Examination of Veterinary Students will be suspended in 1881, it may be useful to supply some information in regard to the Society's efforts to promote Veterinary science.

The first attempt to introduce the teaching of Veterinary Surgery in Scotland took place in 1816, when the Lord Provost of Edinburgh endeavoured to induce the Senatus Academicus to appoint in the University a Chair of Comparative Anatomy, embracing Veterinary Physic and Surgery. The Senatus, however, declined, assigning a number of reasons for their refusal. They stated that the institution of a Veterinary School in the city would reflect much honour on the founders, and be of permanent advantage to the community, but that such an institution, however desirable in itself, was not a suitable appendage to a University, in respect that it must necessarily lead to lucrative employments connected with that branch of study which might not be consistent in public estimation with the dignity of the University, and that, in point of fact, the

most celebrated Veterinary schools are not connected with Universities; but that such an establishment might be united very advantageously with some other institution, such as the Highland Society; and, in fine, the committee of the Senatus was of opinion that the establishing of a Veterinary School, with the appendages of stables, hospital, and forge, within the city or its precincts, would be desirable.

At the time the proposal of the Lord Provost was under the consideration of the Senatus, the late Mr William Dick was attending the classes in the Medical and Surgical Schools of Edinburgh; and in the following session (1817-18) he attended the Veterinary College of London, where on the 27th January 1818 he obtained his certificate. In the three succeeding sessions Mr Dick delivered lectures, first in Freemasons' Hall, Niddry Street, then in the South Bridge, afterwards in the School of Arts, and latterly in the Calton Convening Room. But it was for long a matter of regret to those immediately interested in the management of live stock that no permanent institution existed in Scotland to promote a knowledge of the diseases, cure, and treatment of our domestic animals. Such had long been established in France, Italy, Denmark, Sweden, Prussia, and, more latterly, in London and Dublin. But, with the exception above set forth, nowhere in Scotland had instruction been afforded in the Veterinary art, either by public or private lectures, and very few regularly educated Veterinary surgeons were established in this country. The consequence was, that the farriers and others who pretended to the knowledge of the diseases of horses and cattle were in general lamentably ignorant of what they professed to understand and to practise.

In the spring of 1823 the matter of public lectures for giving instruction in Veterinary subjects was brought under the notice of the Directors of the Highland Society by Mr Robert Johnston, merchant, Edinburgh. The Board being sufficiently alive to its importance, and its intimate connection with the advancement of agricultural science, a committee was appointed, consisting of Professor Coventry, Professor Hope, Dr John Barclay, Sir John Hope, Mr Fergusson of Woodhill, Mr Graham Dalyell, Mr Small Keir of Kinmonth, Mr Scott of Sinton, and others, of which Dr Barclay was named convener. After due deliberation, it was agreed that a lecturer sufficiently qualified should be patronised in a course of lectures; and accordingly the General Meeting in June 1823 placed the sum of fifty pounds \* at the disposal of

\* Next year the grant was thirty guineas, and since that time the annual allowance to the Society's Professor of Veterinary Surgery has been twenty-five guineas.

the Directors for promoting the measure in the session of 1823-24, upon the understanding that, as far as regarded the Society, it was entirely experimental.

The committee, to whose superintendence the arrangement of all the details was entrusted, immediately applied themselves in carrying the views of the Society into effect, and they made the necessary arrangements with Mr Dick, to whose zeal and practical skill very ample and distinguished testimonies were borne. The lecturer, furnished with a forge and other appendages for the practical instruction of country farriers, accordingly began his first course of lectures on the diseases of horses, black cattle, sheep, and other domestic animals, illustrated with the necessary anatomical demonstrations.

*First Session, 1823-24.*

The introductory lecture for the first session was delivered on the evening of Monday the 24th November 1823, in the Calton Convening Room. Besides the students, several members of the Society's committee and medical gentlemen were present, as well as various practical farriers from the country. The course, consisting of forty-six lectures, continued to be delivered every Monday and Thursday evening during the season. The number of students was twenty-five. The success of the course was highly satisfactory; students from various parts of the country attended it, and derived much advantage from the instructions they had received. One of them came regularly twice a week from the country, a distance of nine miles. The fee was two guineas for new pupils, and one guinea for those students who had formerly been with Mr Dick.

Dr Barclay, in stating to the General Meeting of the Society in July 1824 the success which had attended the lectures, showed various specimens of preparations made by the lecturer, which gave ample proof of his knowledge in the important department of anatomy. Sir John Hope, a member of the committee, expressed his particular satisfaction at the establishment of such a course of lectures, experimentally, under the Society's patronage, and his approbation of the lecturer's science and skill from the specimens he had seen. Sir John Hay and Mr Innes of Stow having supported the same views, the recommendation by the committee that the lectures should be continued, under the Society's patronage, was unanimously agreed to.

*Second Session, 1824-25.*

The course of lectures for the second session was commenced in November 1824, and the hour was made to



accommodate the convenience of students attending the Agricultural class in the University. Dr Barclay, in submitting a report of the result of this course, which consisted of fifty lectures, to the General Meeting in July 1825, stated, in strong terms, his sense of the advantages which must arise from the establishment of such lectures in Scotland. He observed that, owing to the expense of attending the Veterinary College in London, or the subject having heretofore attracted little attention in Scotland, it appeared that very few regularly bred Veterinary surgeons had as yet settled in this country; it was satisfactory, however, to find that at this course the number of practical farriers had been greater than had attended in the former year, and as the lecturer had applications to recommend farriers for three districts which could not be supplied, it was obvious that the subject was attracting more attention. The Doctor urged the expediency of the Society's still continuing to patronise the lectures, and added that he had no doubt that some of the medical gentlemen of Edinburgh, if applied to, would readily agree to examine the students at the termination of the course as to their practical knowledge of comparative anatomy, and the certificate of such examination would be a satisfactory guarantee of the farrier's qualifications for practice. Sir John Hope concurred with Dr Barclay in the importance of the lectures, and recommended their continuance, which was agreed to.

The committee being of opinion that some further measures should be taken to call the attention of local agricultural societies to the importance of the lectures, and with that view advertised them in the provincial newspapers, and circulated the following notice regarding the subject:—

“HIGHLAND SOCIETY HALL,  
Edinburgh, July 28, 1825.

“SIR,—I am desired by the Directors of the Highland Society of Scotland, in terms of a Resolution adopted at their meeting on the 29th of June last, to request the attention of your Society, and of the Noblemen, Landowners, and Farmers in your district, to a very important but much neglected branch of rural affairs.

“It is too well known to require illustration, that the treatment of Horses and Cattle under disease is lamentably defective in almost every part of Scotland. By much the greater number of Farriers and Cow-doctors purchase or inherit a set of receipts which are administered in *all* cases, and frequently without any correct idea either of the anatomical structure of the animal, the effect of the medicine, or the probable nature and seat of the disease. The consequences are obvious; many valuable animals are annually sacrificed to ignorance; and where nature effects a cure, the recipe administered acquires very unmerited celebrity.

“It is obvious that Scotland cannot too soon get rid of this unworthy reproach; and the Highland Society having turned their attention to the subject, feel much satisfaction in recommending the School of Veterinary Surgery established in Edinburgh during the last two years, by Mr William Dick, under their patronage and support.

"Actuated by one single object—the improvement of Scotland in every department of rural economy—the Society would wish urgently to impress upon the landowners and intelligent occupiers of your district the great importance of establishing among you a steady individual, regularly and scientifically bred to the ordinary work of the forge, and to the correct treatment of Live Stock under those various diseases and accidents to which they are subject.

"With this view the Directors have deemed it proper to remind the various Agricultural Societies of Scotland of the recommencement of the Veterinary Lectures in November next, and to bring under their notice the beneficial consequences which would result from each district sending up one or more intelligent individuals to attend Mr Dick, who shall afterwards be established in their respective districts. Nor is it undeserving of notice that mechanics, chemistry, &c., with the use of a library, may now be acquired upon such easy terms in the School of Arts, that a steady and attentive student cannot fail to carry home a valuable store of scientific knowledge from a winter's attendance in Edinburgh.

"The probable expense attendant upon such a measure will necessarily vary according to circumstances. Where employment as a journeyman is wished by any individual, and is obtained, either at Mr Dick's or some of the other forges in Edinburgh, it would probably be no more than the expense of travelling and the lecturer's fee of two guineas, with the fees of the School of Arts, which are very moderate, should he attend that excellent institution. Where, again, such employment shall not be procured, the expense will be necessarily increased to meet the charge of subsistence, but ought in *no case* to exceed £20 or £25, lectures of all kinds included.

"I have only further to add that the Lectures and Anatomical Demonstrations during the two past sessions have given great satisfaction both to practical farriers and also to men of science who have occasionally attended. And from some able reports of *cases* transmitted from different parts of the country by young farriers who have attended the lectures, the Lecturer is much gratified to find that the knowledge imparted has been productive of the best results.—I have the honour to be, &c.,

(Signed) "CHARLES GORDON,  
Depute Secretary."

From various intimations received by the Society, it appeared that several districts had, in consequence of the above communication, resolved to send up proper persons to receive instructions.

### *Third Session, 1825-26.*

At the Anniversary General Meeting in January 1826, Mr Fergusson of Woodhill (in the absence of Dr Barclay from indisposition) made a very satisfactory report of the school for the then current session which had been commenced on the 22d of November 1825, at seven o'clock in the evening. From his report it appeared that, besides gentlemen who attended for their private information, there were twenty practical farriers, who had come or had been sent up from different parts of the country, and who, at the end of the session, would return to their several districts regularly and scientifically instructed in the treatment of horses, cattle, and

other live stock under disease, as well as in the ordinary work of the forge. The meeting learned with approbation that Mr Dick, with laudable zeal, had devoted a portion of his time to regular examinations of those students who intended to practise; and it was reported that he was highly pleased with their attention and progress. On the occasion of the half-yearly meeting of the Society in June 1826, Mr Fergusson, who had since the previous meeting been named Deputy Chairman of the Veterinary Committee, expressed his sincere regret for the continued indisposition of Dr Barclay, in which sentiment he was sure all would participate who knew the zealous endeavours of that gentleman, and the aid of his scientific skill, which were so readily given in promoting the establishment of the Veterinary lectures, which were intimately connected with comparative anatomy, a department of medical science in which the Doctor ranked so high. Mr Fergusson then reported, in very favourable terms, the success of the course for the third session; the number of farriers who had attended had increased from ten (the number who attended in 1824-25) to twenty, of whom sixteen had come from various parts of the country and two from the north of England, to attend this course; and the abilities and zeal of Mr Dick warranted every opinion formerly expressed, and every encouragement hitherto bestowed. Mr Fergusson, on this occasion, noticed a proposal of Mr Dick with respect to the establishment of an hospital in Edinburgh for injured or diseased animals, and of which he mentioned that Mr Dick intended to put a prospectus in circulation requesting noblemen and gentlemen to give it their attention and support, should it meet with their approbation.

#### *Fourth Session, 1826-27.*

The success which attended the three previous sessions was extended to the fourth. The zeal of the lecturer continued unabated; notwithstanding the disadvantages under which agriculturists and breeders of stock laboured during the preceding year, the class was very well attended by practical farriers and others; and it was predicted that, if the Society's patronage was continued to the lectures, there would in a few years be skilled farriers settled throughout the country. But during the session the committee, in common with every friend of anatomical science, had to regret the loss of their chairman Dr Barclay, to whose enlightened zeal the experiment made by the Society of the lectures must, in a great measure, be ascribed. Owing to the death of Dr Barclay, upon whom had been devolved the trouble of drawing up some of the questions or heads of examination, the recommendation before alluded to, for an

examination of the pupils by a committee of medical gentlemen, was not this session carried into effect. On Dr Barclay's death, Mr Fergusson of Woodhill was named chairman. There was at this time one gentleman to whom the Society was under obligations for his zealous assistance in promoting their views, namely, Dr Knox (the successor of their late much-respected Director, Dr Barclay), who had liberally allowed the practical students who attended Mr Dick free tickets to his valuable lectures on human and comparative anatomy, an advantage which could not fail to be of the greatest use to them in the prosecution of their Veterinary studies. The thanks of the Society were voted to Dr Knox at the General Meeting in July 1827 for his liberal accommodation.

*Fifth Session, 1827-28.*

The fifth session, was commenced on the evening of the 16th November 1827. The school continued to flourish, and Mr Dick to display unabated energy and zeal. Much real good it was anticipated would result from the establishment, and much well-deserved credit accrue to the Society for its fostering aid. To prevent the risk of half-educated farriers assuming credit from a partial attendance on the lectures, and thus imposing on their employers, several medical gentlemen of high professional eminence, and feeling a warm interest in the objects of the Society, agreed, at the close of this session, to examine and certify such of the students as might offer and prove deserving. To the young men it was considered that this would be at once an incitement to diligence and a check upon idleness, while the public would be in some degree secured against ignorant pretenders. The first public examination of the students accordingly took place on the 23d of April 1828, was conducted by six eminent medical practitioners of Edinburgh (whose names will be found appended to this Report), and resulted in a certificate in the following terms being conferred on seven students :—

“VETERINARY SCHOOL UNDER THE PATRONAGE OF THE HIGHLAND  
SOCIETY OF SCOTLAND.

“EDINBURGH, 23d April 1828.

“Having been requested by the Directors of the Highland Society of Scotland to assist in the examination of the students of Mr Dick, Lecturer upon Veterinary Science under the Society's patronage, we attended accordingly, and do hereby certify that (name of student), who has studied at the Veterinary School for (length of time), having been this day examined by us, we consider him qualified to practise the Veterinary art.”

The examiners expressed the utmost surprise at the acquire-

ments of the students during so limited a period, and which, as they justly remarked, bore ample testimony to the diligence and success of Mr Dick. They unanimously congratulated the public upon the establishment of the Veterinary school, and felt no hesitation in pronouncing it highly creditable to the Highland Society, by whose patronage it had been formed, and of predicting incalculable benefits to the country from the dissemination of Veterinary science. The gratifying result of the examination was reported to the General Meeting in July 1828 by Mr L'Amy of Dunkenny, who stated that Mr Dick had also during the session given a popular course of lectures in the forenoon, which was numerously attended by country gentlemen, members of the Society, and others, who were highly pleased with the intelligence and zeal of the lecturer. A similar course was continued for some time.

*Sixth Session, 1828-29.*

By the time that the sixth course of lectures was commenced in November 1828, the practical utility of the establishment was being fully ascertained. Young men from various parts of the country were now receiving instruction in the most approved and scientific modes of shoeing, in the anatomy and diseases of the horse and other domestic animals, and in the best system of treatment and cure, with increased attention to the clinical department, and to the private examination of the pupils. Several of the students had been sent up by local agricultural associations, and others were prosecuting their studies on their own account, with the utmost zeal and success. This year's course was attended by twenty-five practical students, some of whom were from England, besides some of a higher class; and at the close of the examinations, which took place on 14th April, certificates were conferred on six students. In regard to the period of attendance, it was recommended that no certificate should be granted under two years' attendance, as it did not seem upon an average at all reasonable to expect solid acquirements in a shorter time. After the session was ended, Mr Dick went to the Continent, and inspected some of the veterinary establishments in France, &c.

*Seventh Session, 1829-30.*

The report for the seventh session notices the continued assiduity and zeal of the lecturer and the proficiency of the pupils, twenty-six of whom had attended the course. In addition to these, nine general or amateur students gave regular attendance, and also several medical gentlemen attending Dr Knox's class. This session the number of lectures extended to

seventy, besides a few private hours devoted to the practical students upon *Materia Medica*. Seven of the practical students, having finished the prescribed course and passed the examinations, received certificates. The report also expressed the Society's obligations to the medical gentlemen for the trouble they had taken in conducting the examinations, and the interest evinced by them in the progress and prosperity of the school. Mr Robertson Scott of Benholm, after stating his gratification at the proficiency he had witnessed at the examinations this session, said no part of the Society's funds were more profitably employed than the sum devoted to the support of the school, many districts of the country having already experienced the benefit of the information acquired by the students who had there received instruction. The Report by the committee this session was printed and circulated among local agricultural societies.

In noticing the lectures, the Report states that, after commencing with an outline of anatomy, and a comparative description of the bones of the different domestic animals, taking the horse as a standard, and discussing the diseases of these bones as they came successively under examination, Mr Dick proceeded to treat of the muscles, tendons, and ligaments, with their various diseases in different animals. Next in order came the foot, with its diseases, and the various modes of shoeing; after which followed the organs of respiration, with the diseases affecting these parts, and the specific ailments of the different animals connected therewith, as the murrain in cattle, distemper in dogs, tuberculous disease in swine, &c. The abdominal viscera of the horse, ox, sheep, and dog, and peculiarities of each, were next considered, with the diseases of the intestines, as "hoven stomach" in cattle and sheep, colic, inflammation, &c. Then followed the liver, rot in sheep, the urinary and generative organs, with the operations connected therewith, as castration, spaying, lithotomy, operation for hernia, &c. The skin, its functions and diseases, was next treated of; then the brain, nerves, and ear, with their disorders; and lastly, the anatomy and diseases of the eye. From this outline it is sufficiently clear that a very comprehensive course of study had been followed, and that the students had throughout enjoyed the advantage of regular anatomical demonstration, practical operations, and clinical treatment of patients.

A copy of this report was communicated to the Royal Dublin Society in 1831. That Institution had then under consideration the establishment of a veterinary school in Dublin, and applied for information on various details connected with that instituted by this Society.

*Eighth Session, 1830-31.*

Twenty-five practical and fourteen amateur pupils attended the course of lectures for the eighth session, and at the close of the examinations, which took place on the 19th and 20th April, certificates were conferred on eight. The benefits resulting from the Establishment were now appreciated by the country; and it was considered that no money could be more usefully expended by any district than the small sum necessary to send a student to attend the lectures and instructions of Mr Dick, with a view to qualify him for veterinary practice in the district. Certificates were not issued until after a regular course of study of at least two sessions, and after a careful examination. By these means there was a prospect of seeing our numerous and valuable class of domesticated animals freed from the ignorant treatment to which they must necessarily be subjected when farriers have not been enabled to found their practice upon a proper scientific education. The thanks of the Society were this year voted to the medical gentlemen who conducted the examinations, as well as to the lecturers on different departments of medical science, who had liberally given admission to a limited number of the veterinary students to attend their lectures without expense.

*Ninth Session, 1831-32.*

The ninth session was commenced with an increased number of students. Sir George Ballingall called the attention of the Society, at the General Meeting in January 1832, to the prosperity of the school, an object so worthy of its patronage. The number of students was yearly on the increase, and he (Sir George) and his professional brethren who had attended the examinations were highly gratified by witnessing the intelligence and attainments of the students, and the unremitting attention of Mr Dick. At the close of the examinations this session the certificate was conferred on nine students. Mr Wood, one of the examiners, after alluding to the uncommon success of Mr Dick as a teacher, evinced year after year in the appearance made by his students, very earnestly impressed upon the students the debt of gratitude they owed to their instructor, and which would be best discharged by an honourable and zealous prosecution of their profession, and a free and liberal communication to Mr Dick of all remarkable cases which might come under their notice for publication in the Society's Transactions. Mr Dick returned his acknowledgments for the gratifying notice which had been taken of his exertions, which he said would assuredly be an additional motive to his assiduous attention to the school. It was his duty, he added, to acquaint the members of the hand-

some and liberal manner in which Professor Munro, Dr Knox; Mr Liston, Dr Thomas J. Aitken, Mr Fergusson, and Dr Murray had opened their classes to the veterinary students, a privilege of the utmost importance, and which there could be no doubt materially affected the issue of the examinations on the present and former occasions.

*Tenth Session, 1832-33.*

Fifty students were enrolled for the tenth session; of these thirty were practical men, and eleven who had attended the necessary course of study passed the examinations and received certificates. The examinations took place on the 11th and 12th April, and were conducted by several of the most distinguished medical professors, lecturers, and practitioners of Edinburgh, in presence of a numerous attendance of the Directors and members of the Society, and of gentlemen interested in veterinary science and rural affairs, including Mr Robert Johnston, who originally brought the subject of veterinary lectures under the attention of the Society. The general result of the examinations afforded the highest satisfaction to the intelligent and competent judges. Mr W. Wood, one of the examiners, in addressing the students in name of his medical friends and himself, adverted to the obligations which they owed to the increasing and scientific labours of their instructor Mr Dick. Dr Mackintosh added some valuable advice to them upon maintaining a correct professional character throughout life, concurring heartily in all that had been said upon the merits of the school. Mr Fergusson, the Convener of the Society's Veterinary Committee, then acknowledged in grateful terms the valuable and kind services of the medical examiners, as also the liberality of the professors and lecturers in affording the students gratuitous attendance upon their lectures, without which Mr Dick stated he could not have been able to impart the knowledge which the students had acquired. The Convener also adverted to the commodious and elegant hall which had been erected by Mr Dick, and in which they then for the first time assembled, as being both useful and ornamental.

On the occasion of the General Meeting in June 1833, the Directors had to express their regret at having lost the services of the zealous and indefatigable Convener of the Veterinary Committee, Mr Fergusson of Woodhill, whose absence deprived the Society of his valuable assistance on this Committee, and in the Society's business generally. They proposed to succeed him as Convener Mr Burn Murdoch of Gartincaber, a gentleman of whose qualifications for that duty they had had full experience. Before leaving this country for Canada, Mr Fergusson was enter-



tained at dinner in the Hopetoun Rooms by the Directors of the Highland Society. The Marquis of Tweeddale was in the chair, supported by Lord Greenock, and Sir John Hope, Bart., acted as croupier.

*Eleventh Session, 1833-34.*

The eleventh course was commenced in the lecture-room of the new establishment in Clyde Street on Wednesday, the 13th of November 1833. Besides a spacious class-room, there were attached to the new premises a museum, an hospital, and a large dissecting apartment. The students did not confine themselves to the anatomy of the horse; several of the most eminent anatomical professors continued to allow the students to attend their lectures, a privilege of which many willingly availed themselves. The consequence was, that at this period the students exhibited a degree of knowledge which enabled them to rank with any class of veterinary surgeons. The museum attached to the school at this time comprehended an extensive collection of preparations for the illustration of the lectures. At the request of the Directors, Sir George Ballingall kindly went over these and prepared a catalogue, in which duty he was assisted by Dr Mackenzie, a member of the Society, and by Mr Hallen, Veterinary Surgeon of the Enniskilling Dragoons. Sixty-two students attended the lectures during this session, a number greater than on any previous occasion. Of these sixteen, who had finished the prescribed course of study, were, after examination on 16th and 17th April, passed by the medical examiners, received certificates, and afterwards settled for practice in the districts with which they were severally connected. At the close of the session Lord Greenock, on behalf of the Directors of the Society, expressed to Mr Dick the great pleasure they had received in attending the examinations, and the satisfaction which the lecturer's conduct continued to give to the Society in every respect.

*Twelfth Session, 1834-35.*

Above sixty students attended the lectures during the twelfth session, and fifteen practical men, who had completed the course, were found duly qualified at the examinations on 16th and 17th April, and obtained certificates. As upon former occasions, the Convener and Committee appointed by the Society superintended the examinations. At the close of the business the Convener (Mr Burn Murdoch) earnestly entreated the students to endeavour, under an humble trust in Divine assistance, by a correct deportment in their future lives and conduct, to prove themselves worthy of the advantages of the liberal education which they had enjoyed. He assured them that as

it was the only return which they had it in their power to make to those generous medical friends to whose liberality they were so much indebted, he was satisfied their future good conduct and success in life would be the most gratifying remuneration which these gentlemen could receive. To the medical gentlemen to whose kind assistance the school was so much indebted for its success, he begged, in the name of the Committee and of the Highland Society, to return his best thanks; and he was certain all who felt interested in the Institution would agree with him in expressing their satisfaction of the manner in which Mr Dick continued to discharge the duties of his situation. Sir George Ballingall then expressed to the students the high satisfaction which he and the other medical gentlemen present had witnessed the appearance made by them on their examination, and enforced the advice given them by the Convener as to the care they ought to take to exhibit propriety of conduct in their future lives. Mr Dick returned his thanks to the medical gentlemen who had attended the examinations, and in a particular manner to those who furnished his pupils with free admission to their lectures. Without this great advantage, he found, he could not by any exertions of his own have produced pupils who did so much credit to the school as those examined this session.

*Thirteenth Session, 1835-36.*

The thirteenth session was attended by sixty-four students, twenty of whom were practical men, and of these one was from New York, one from London, and one from Lincolnshire. Fifteen pupils having completed the prescribed curriculum, were, after a minute examination, which took place on the 22d and 23d April by the medical gentlemen, found qualified, and received certificates. On this occasion Sir George Ballingall expressed the pleasure which his medical friends and himself had again experienced in attending the examinations, and adverted in high praise to the proficiency of the students, and also to the different specimens of anatomical preparations then exhibited and executed by them. The Convener of the Society's Committee then acknowledged in grateful terms the valuable services of the medical examiners, and the liberality of those who still granted the students gratuitous attendance to their classes, and which, he added, furnished to the public the most complete guarantee of the capabilities of those who, under their auspices, went forth as practitioners from this school.

*Fourteenth Session, 1836-37.*

The fourteenth session was equally satisfactory with any of the former. Upwards of sixty students attended; and fourteen

of these, from various parts of the country, underwent their examination, on 24th and 25th April, with much credit, and received certificates of qualification for practice. After announcing to the candidates that they had all honourably earned their certificates, Mr Sheriff L'Amy addressed them in a few words admonitory of their future conduct, and particularly of their maintenance of that high character which they had acquired by their attendance at the school.

In May 1837 the Board, in referring to the Veterinary School, recorded that amongst the useful institutions patronised by the Society, it had ever gratification in recurring to the subject. The advantages of it in rescuing the farmers of the country from dependence on the ignorance of ill-educated farriers was every year more and more felt. Deserving young men instructed at the school, and having had the advantage while in town of attending the medical classes of the University and private lectures, were now settled in almost every district of Scotland; and too much praise, it was added, could not be bestowed upon the zeal and talent with which Mr Dick carried on the duties of the establishment.

*Fifteenth Session, 1837-38.*

At the anniversary meeting of the Society, in January 1838, Mr Burn Murdoch laid before the meeting a memorial from Mr Dick, along with the proceedings of the Directors thereupon. The memorial adverted to the complete course of study required, and the thorough examination the students must pass in presence of eminent professors and teachers of medicine in Edinburgh, before a certificate is obtained, every certificate hitherto granted having borne the names of at least three of those eminent examiners—a sufficient guarantee that the graduates of the Edinburgh Veterinary School are fully qualified to acquit themselves of the duties of the profession in any situation. The memorial solicited the support of the Society in order to obtain a recognition of eligibility of graduates of the Edinburgh Veterinary School for commissions as veterinary surgeons in the army and in the Hon. East India Company's service. The Minutes of the Directors bore ample testimony to the truth of the statements in Mr Dick's memorial, and they recommended to the Society that the application should be supported accordingly. Professor Low said he had been requested, and he had pleasure in complying with the request, to move a resolution in conformity with the opinions expressed by the Directors. He eulogised the merits and exertions of Mr Dick, and stated that that gentleman well merited such a favour at the hands of the Society; that he had formed his establishment under many discouraging circumstances, of which not the least was the degraded

state of farriery at that time in Scotland, and that by the force of his own genius he had placed himself in the first rank of veterinarians. But the question at present was the fitness of the young men who attended this seminary to fulfil the duties of veterinary surgeons in the service of the country. He could assure the meeting that no doubt would exist on this subject with all who were acquainted with the laborious course of study pursued, and the searching examination to which the students were subjected before receiving their certificates, and with the unrivalled facilities afforded them of attending the anatomical and other medical schools of the University and elsewhere. He concluded by moving the following resolution, which was seconded by Mr Johnstone of Alva, and adopted: "Resolved—That the Society approves of, and adopts the suggestions in the Minutes of the Board of Directors in relation to Mr Dick's memorial, and that the memorial, with the opinion of the Society, be transmitted to the Duke of Sutherland, the President, with the request of the General Meeting that His Grace will forward the object in view, by application and the exertion of his personal influence in the proper quarters."

At the examination of the students, in April 1838, the Convener communicated to the students the gratifying intelligence that Government, and also the East India Company, had agreed to recognise the eligibility of the graduates of the Institution to hold appointments as veterinary surgeons, both in the army and in the Company's service. For the attainment of this object, the Society was under great obligations to their noble President, the Duke of Sutherland, who took much trouble in representing in the proper quarters the claims of the Edinburgh Veterinary School to the privilege. Mr Dick, in thanking the Directors of the Society for their patronage and kindness, referred especially to the great additional boon they had been the means of procuring to the graduates of the establishment, in having their eligibility recognised to fill situations in the British army and the East India Company's service.

The attendance of medical and other gentlemen at the examinations of the fifteenth session, which took place on the 19th and 20th April 1838, was greatly more numerous than on any former occasion, and was a gratifying proof of the interest which was felt by the public in the welfare of the establishment. The examinations were, as usual, superintended by the Committee appointed by the Society, and conducted by the medical gentlemen and veterinary surgeons, whose names are given at the end of this Report. On this occasion, twelve students who had attended the prescribed course received

certificates, the plate for the certificate having been previously altered in conformity to the Society's corporate name in the new charter.

*Sixteenth Session, 1838-39.*

By the period of the sixteenth session, the Edinburgh Veterinary School was considered as a national institution. Upwards of one hundred students attended the lectures of the session, and seventeen having gone through the prescribed course of study attended the examination on the 25th and 26th April, received certificates of qualification. Besides the great increase in the number of students, their grade was also greatly improved—they were now quite of a superior class—and this was no doubt very much to be attributed to the great boon which had been obtained for the school in the recognition of its graduates as qualified for commission as veterinary surgeons in the British army and in that of the East India Company. Among the premiums awarded this year were two for anatomical preparations. So important was this subject considered both by the members of the Committee and the medical examiners, as an evidence of the comparative manual dexterity of the veterinary student, it was agreed by them that, in future, no student should be allowed to become a candidate for a certificate unless he produced an anatomical preparation executed by his own hand.

*Seventeenth Session, 1839-40.*

At the General Meeting of the Society in January 1840, it was noticed that the successful application made by the Society to Lord Hill, through the Duke of Sutherland, to have the graduates of the Edinburgh School declared eligible for commissions as veterinary surgeons in the army, had now been carried into practical effect, Mr James Robertson, one of these, having obtained a commission. Upon his examination preparatory to his appointment, Mr Robertson acquitted himself most creditably.

The number of pupils who attended the seventeenth session was seventy-eight, of whom forty-eight were professional students, who had the peculiar privilege, nowhere else enjoyed by veterinary students, of obtaining acquaintance with human anatomy and physiology, by attending, gratuitously, the prelections of several of the eminent lecturers, who have been a great means of extending the basis of medical education in Edinburgh. The fruits of this latter advantage were well displayed on the occasion of this year's examination, which were held on the 21st and 22d April, when eighteen pupils were declared by the examiners worthy of receiving certificates to practice. In obedi-

ence to a standing rule, imposed for the first time this year, every candidate for certificate produced at least one dissection, some four, showing by injection the blood-vessels and nerves of some important part of the frame, and a medal was awarded for the best preparation. This medal was gained by Mr J. W. Lockwood, York, one of the two successful candidates who obtained the medal for general excellence. Among the medical gentlemen who conducted the examinations on this occasion were Sir Charles Bell, professor of surgery in the University; Sir George Ballingall, professor of military surgery; Sir William Newbigging; Mr Fergusson (afterwards Sir William Fergusson, Bart., professor of surgery, King's College, London), and Mr Robertson, veterinary surgeon, Cavalry Dépôt, York, the first graduate of the school who received the appointment of veterinary surgeon in Her Majesty's army, under the arrangement formerly alluded to.

In April 1840 a petition to the Directors of the Society, signed by forty-five veterinary students, praying that in future the titles of College and Professor should be respectively applied to the Edinburgh Veterinary Institution, and the teacher, Mr Dick, instead of school and lecturer, at this time in use. The Veterinary Committee, to whom the petition was referred, were of opinion that the designation of the establishment (while it did not interfere in any way with the rights of others) would have the effect of increasing its respectability and usefulness among strangers, and especially in England; and also considering that the designation of College and Professor are invariably bestowed by the public upon such institutions and the lecturers, unanimously agreed to recommend for the approval of the Directors the adoption of the change in the designation of the institution, in terms of the prayer of the petition. The Board approved of the proposed change, and from this date the titles College and Professor have been in use.\*

#### *Eighteenth Session, 1840-41.*

During the eighteenth session the class was in greater vigour than it had ever been before, there being eighty-six pupils attending the lectures. At the close of the session, the usual examinations took place on the 19th and 20th April, and were conducted by Sir Charles Bell, Sir George Ballingall, Sir William Newbigging,

\* When John Walker inserted the word "veterinary" in his Dictionary, and gave its definition as "belonging to cattle, particularly horses; from the Latin *veterinarius*, a farrier or horse-doctor," he added a note stating that he had adopted the word from a prospect of its becoming a part of the English language; and that as a college had been founded in London for studying the diseases to which the horse is liable, he thought the name of Veterinary College must come into general use, and ought therefore to have a place in English Dictionaries. Previous to Walker, Ash was the only lexicographer who had it.

and a large number of other eminent members of the medical faculty and veterinary profession. The students were minutely examined upon the knowledge of the anatomy and structure of the horse, and also upon the diseases to which the domestic animals are liable, and the practical treatment of the lame. The examiners expressed themselves highly satisfied with the extent of knowledge and proficiency of the several candidates, seventeen of whom were found duly qualified and obtained certificates.

At the beginning of this session the subject of Murrain excited much attention throughout Scotland. The Directors of the Society lost no time in taking the proper steps to investigate the nature and cure of this disease. A meeting was held on the 13th of November 1840, at which Professor Dick attended and detailed the experiments he had made, and the opinions he had formed, relating to the disease. Only a few cases had then come under his notice, but these cases were of so mild a nature, and so different from the reported cases that had occurred in the neighbouring part of the island, that he wished to wait and see more of the disease before he made any public statement on the subject. The Directors resolved accordingly to make no public announcement with regard to the disease till the Professor had obtained further opportunities of investigation, lest by any premature report they should spread unnecessary alarm through the country, and cause a fall in the price of stock. During the succeeding two months, Professor Dick had from 300 to 400 cases in hand, which he treated in the same manner as the first, and not one single death occurred. In consequence he addressed a letter to his former pupils in various parts of the country, detailing the mode of treatment. This letter was afterwards printed, divested, as much as possible of professional technicality, and circulated for the information of the community. It was also published in Volume VII. of the second series of the Society's Transactions.\*

#### *Nineteenth Session, 1841-42.*

The nineteenth session was attended by seventy-four students, of whom twenty-six obtained certificates, after undergoing the examinations which took place on the 18th, 19th, and

\* In general proficiency three students were this year declared equal in merit, and in addition to Professor Dick's prize, the Directors, on the part of the Society, agreed to vote two silver medals. The number of medals given by the Society was afterwards increased; and in 1874 the Society resolved to vote annually eight silver medals to each of the two Veterinary Colleges in Edinburgh, and to the one in Glasgow, for class competition; and two medium gold medals, open to all the students who come up to the final examination for the Society's veterinary certificate for best general and best practical clinical examinations.

20th April, and were as usual conducted by many of the medical professors and lecturers in Edinburgh, and several veterinary surgeons, among whom were Mr Wilkinson, V.S., of the 17th Lancers; Mr Olden, V.S., Cork; Mr Lawson, V.S., Manchester; and Mr Dearden, V.S., Manchester. Professor Dick had always a large practice of poor patients, and the students had thus an opportunity of acquiring a practical knowledge of science. The cost of the medicine gratuitously given to such dispensing patients amounted about this time to £50 annually. The diseases of the domesticated animals have always occupied a conspicuous place in the course of lectures, and the numerous opportunities afforded of seeing such among the several large dairies attended by the Professor was one of the most useful parts of the instruction of the students. So important did the Directors of the Royal Agricultural Society of England esteem this matter that they, in 1842, appointed a Lecturer on the Diseases of Cattle in the Royal Veterinary College of London, with a salary of £300 a-year.

*Twentieth Session, 1842-1843.*

The twentieth session was attended by a numerous class of students, many of them from England, Ireland, and America. The examinations took place on the 20th and 21st April, in the presence of a large assemblage of the members of the Society, and of some of the most eminent of the medical faculty in the city, and after a severe and searching examination on the structure and diseases of the horse and domesticated animals generally, certificates were granted to twenty-four students. A considerable proportion of those who obtained certificates this year had been apprentices or pupils of some of the most distinguished veterinary surgeons in England—a circumstance which affords a convincing proof of the progress which the College was making in the estimation of the members of the veterinary profession in every quarter of the country.

*Twenty-first Session, 1843-44.*

The examinations of the students attending the twenty-first session took place on the 22d, 23d, and 24th April, and were conducted by the gentlemen appointed by the Highland Society; and in consequence of the charter granted to the Royal College of Veterinary Surgeons, dated 8th March 1844, the Society's examiners were assisted by those elected by the Council of the Royal College. Besides these, there was a full attendance of the members of the Society and the resident gentlemen of the surrounding counties, and others who took a lively interest



in the advancement of veterinary science. There were also present a deputation from the Council of the Royal College, consisting of Professor Spooner and Mr Gabriel of London, and J. Walton Mayer, Newcastle-under-Lyne, as also several veterinary surgeons from different parts of the country. There were at this time eighty-one pupils in the College, sixty of whom were practical students. Forty-five presented themselves for examination, of whom forty-one (twenty-seven Scotch, twelve English, and two Irish) were passed, and four rejected.\* Among the English students this session, one (Mr Alfred Henry Cherry) was the son of the principal veterinary surgeon in the army. Last session he sent his favourite apprentice; this year he sent his own son. The truth was, the pupils under Professor Dick not only had the advantage of his instruction from the desk, but they saw the whole details of the practice in every department. Since the commencement of the College, upwards of 700 students had attended the lectures. This was a matter of great importance, for if the public were particular about rearing of stock, it was surely of consequence that persons should be trained to preserve them.

*Twenty-second Session, 1844-45.*

The Highland Society did not appoint examiners for 1845, 1846, and 1847, but the College was still under its patronage and superintendence. The course of study comprehended, as usual, instruction in the anatomy of the horse, neat cattle, the sheep, the pig, and the dog, including also stable management and the forge; and in order to the arrangement of the several departments of study at hours convenient for the students, Professor Dick had the assistance of Messrs John Barlow and William Worthington, who, under his superintendence, took charge of the anatomical demonstrations, *Materia Medica*, and Pharmacy. The necessary instruction in Chemistry was given by Dr George Wilson.

The examinations for the twenty-second session took place on the 22d and 23d of April 1845, and were conducted by the Board of Examiners elected for Scotland by the Royal College of Veterinary Surgeons. There were also present a considerable number of the Directors and members of the Society. Sixty-one pupils attended the session, of whom thirty were practical students, fifteen of them being English, one of them a Russian from St Petersburg, and the rest Scotch and Irish. Seventeen who had attended the prescribed period were

\* This was the first examination held under the Charter. The examination of the students of the Royal Veterinary College of London took place immediately after, when out of fifty-six examined, forty-one passed and fifteen were rejected.

found qualified to practice, and received diplomas, of these eleven were English, five Scotch, and one Irish. Every one present felt highly gratified at the practical knowledge displayed by the different candidates, and a hope was cherished that at no very distant day the science of veterinary medicine would not only take its proper place amongst the other sciences, and be placed on a footing with them, but that it would be cultivated by those who would tend to advance it in the rapid tide of improvement.

*Twenty-third Session, 1845-46.*

The number of students attending the College this session was sixty-six. Amongst them were individuals from England Ireland, Norway, and Russia. The examinations at the close of the session took place on the 27th April, and were conducted by the Board appointed by the Council of the Royal College of Veterinary Surgeons. There was also a large attendance of influential members of the Society. Twenty-four gentlemen were found qualified, and received diplomas, sixteen of these were Scotch, six English, and two Irish. The students continued to enjoy the benefit of witnessing and assisting in an extensive practice. During the year 1845, 3543 cases were treated under the immediate inspection of the students, and ample opportunities afforded them of performing the different operations which most frequently occur. The Professors of Agriculture and Anatomy in the University of Edinburgh kindly gave at this time gratuitous admission to their classes to the practical students of the College.

The Chairman (Dr Mercer) concluded the examinations with a short address to the numerous gentlemen assembled, and after alluding to the great talent displayed by the different candidates in their examinations, noticed especially the decided improvement that had taken place this year in the attention that had been devoted to the cultivation of practical comparative anatomy, and observed that, owing to the opportunities for the acquirement of such at the College, Edinburgh stood pre-eminent over all other veterinary schools in the country for obtaining a practical knowledge of the veterinary art.

*Twenty-fourth Session, 1846-47.*

In reporting on the state of the College during the twenty-fourth session, Mr Burn Murdoch, the Chairman of the Society's Veterinary Committee, mentioned, at the General Meeting in June 1847, that, owing to the mode in which the examination of the students was now conducted, he had neither attended himself nor requested his Committee to do so, because

nothing could be heard either of the questions put or the answers given, that three or four students were under examination at the same time, and therefore it was impossible to judge of the relative merits of the several students, as was formerly done. Not wishing to trust his own judgment in this matter, however, he had applied to the Chairman of the Board of Examiners of the last and of the present year (Dr Mercer, Edinburgh, and Mr Brown, V.S., 3d Dragoon Guards) upon the subject, and had received answers from both these gentlemen condemnatory of the present system, and approving of the plan of examinations formerly pursued, when these examinations proceeded under the auspices of the Directors of the Highland Society. He was informed, however, by Professor Dick, that the College this year had been attended by upwards of eighty pupils, forty-two of whom were Scotch, twenty-two English, ten Irish, three from the Cape of Good Hope, one from Australia, and one from St Petersburg, and that at the examinations in April sixteen had passed trial and obtained diplomas. In reference to those students from foreign countries, which the just celebrity of the Edinburgh College had attracted to its classes, Mr Burn Murdoch mentioned that one of the effects of the restrictions imposed upon the curriculum of study by the Council under the present charter would be to prevent any one of them obtaining a diploma, for by them it was enacted that no student should be received on trial who had not served three years' apprenticeship to a regular veterinary surgeon.

*Twenty-fifth Session, 1847-48.*

After fully considering the statement made by the Convener to the General Meeting of the Society in June 1847, a petition from the students attending the College, and a letter from Professor Dick, all relative to the subject, it was resolved, while there was no desire or intention of interfering in any way with the examination conducted by the Council of the Royal College, to reconstitute the Society's Board of Examiners for the purpose of giving those students precluded from appearing before the Board of the Council and any others attending the College, an opportunity of being examined in their knowledge and proficiency of veterinary science, and of receiving certificates of such proficiency as the Examiners may judge the candidates entitled to.

The value attached to the certificates formerly granted by the Society's Board of Examiners was well known to the profession and appreciated by the public, and it was believed that some who might obtain the diploma of the Royal College would also apply for examination to the Society's Board, in

order that they may procure its certificate to be afterwards exhibited as a voucher of their having been educated at the Edinburgh Veterinary College.

The examinations formerly conducted under the immediate sanction and control of the Society's Committee took place publicly, and were of the most trying and searching description—they occupied several days, and the adjudicating of the different degrees of excellence when awarding the prizes often proved matter of difficulty to the examiners, and could only be determined after repeated comparative trial.

The opinions of Dr Mercer and Mr Brown, referred to in Mr Burn Murdoch's report for June 1847, as expressed in their written communications to that gentleman, proved the superior value of the former examinations over those of the Royal College.

It was also resolved that the Society's examination should precede that of the Royal College—any apparent collusion arising from the necessity which might possibly occur of the Society's Board rejecting candidates previously passed by the Board of the Royal College being thus avoided.

Mr Burn Murdoch, the Convener of the Veterinary Committee, in reporting on the examinations for the session, which took place on the 18th and 19th April 1848, said it was the first that had been made by the Society since the old system was changed, three years ago. For the last three years the examinations had not been reported by the Committee, because they felt themselves as under the orders of a separate body. They had, however, taken upon themselves to reorganise the system of examination as formerly conducted, and it was attended by a great number of gentlemen, as well as by a large body of medical professors and practitioners in Edinburgh, by whom the examination was conducted, and who declared that it had afforded them entire satisfaction. Twenty-four candidates presented themselves, and nineteen obtained certificates. Their examination was of the most searching and minute kind. Professor Low confirmed what had been stated by the Convener as to the extremely satisfactory character of the examinations. Indeed, it was most surprising to see those young men, who had such a short period for study allowed them, making so great progress, not only in the veterinary art, but in anatomy, physiology, and, he would also add, chemistry.

#### *Twenty-sixth Session, 1848–49.*

The examinations for the twenty-sixth session took place on the 23d and 24th April 1849, and brought out a very

high degree of proficiency in most of the pupils, and in no department was this shown more strikingly than in chemistry, with the principles of which almost all the students seemed quite familiar. Several, however, whose progress was not so satisfactory, were rejected; a significant proof that a certificate from the Society's veterinary examiners was no mere formal grant, but a *bona fide* evidence of thorough acquaintance with the veterinary art. Nineteen students were found duly qualified, and received certificates. As showing the value of the certificate, it was stated at this year's examinations that two students having such, had recently received veterinary appointments in the army. As was customary, Mr Burn Murdoch, at the close of this year's examinations gave a word of counsel to the students on leaving the College, and he felt he could not do it better on this occasion than in the words of Sir Astley Cooper when addressing his students at the close of one of his sessions:—"Now, gentlemen," said Sir Astley Cooper, "give me leave to tell you on what your success in life will depend—1st, Upon a good and constantly increasing knowledge of your profession; 2d, On an industrious discharge of its duties; 3d, Upon the preservation of your moral character. Unless you possess the first, *knowledge*, you ought not to succeed, and no man can wish you success; without the second, *industry*, no one ever will succeed; and unless you preserve your *moral character*, even if it were possible that you could succeed, it would be impossible that you could be happy."

Among those who attended the whole course of lectures during this session was Mr John Goodsir, Professor of Anatomy in the University of Edinburgh. A higher compliment could not have been paid to Professor Dick.

#### *Twenty-seventh Session, 1849-50.*

The examinations for this session took place on the 22d, 23d, and 24th April 1850, and were conducted as usual by the *élite* of the medical profession in Edinburgh, and a number of veterinarians, among whom Mr Legrew, the veterinary surgeon of the 13th Light Dragoons, then quartered at Piershill Barracks, gave valuable assistance. Mr Burn Murdoch occupied the chair. After a strict and searching examination, the Society's certificate was conferred on twenty-seven gentlemen. At the conclusion, the Chairman after announcing the names of the successful candidates, addressed the students: "To those who are now entering on life, let me say one word—let them endeavour to do their duty to sustain through life their own credit and that of the College. May I also add an advice, simple perhaps, but one which the gentlemen present

will do well carefully to attend to. I have now been much in different parts of the country, and have met with many who have studied at this College. I have found that those who failed in the successful practice of their profession have done so not so much from any deficiency in their veterinary knowledge, as from mixing in company with which they have no right to associate, and especially when frequenting fairs and markets. These you will require to attend occasionally in the practice of your profession, but let me impress the necessity of being present at such places only when called to the performance of professional duty. The examinations have been conducted with great care, and have been extremely creditable to those who have gone through them successfully, and especially so to the teachers of the College, the utility of whose instruction had been exemplified in the extent of knowledge displayed by the candidates for certificates."

Professor Dick, in referring to the Highland Society, said it had done much to improve the art of husbandry, and to elicit and promote the best modes of rearing and feeding cattle. It was peculiarly gratifying to him to witness the interest which the Society took in the Veterinary College, and he felt much indebted to such of its members as had lent their valuable assistance during the examination.

Mr Hall Maxwell said he was convinced that no department of the Society's labour had been of greater benefit to the public than those which were discharged in connection with the College, so ably presided over by Professor Dick, for the teaching of the veterinary art. He might state also that no part of his official duties did he perform with greater pleasure than that of attending the annual examinations of the students. He was much gratified at the result of this year's examination. Such of the students as had obtained certificates were, according to the testimony of the very able and distinguished gentlemen who had conducted the examinations highly deserving of them. Some students, they were aware, had not been fortunate enough to pass this session. In so far as these parties themselves were concerned, this was no doubt a cause of regret, but it would do good. It would lead to greater diligence and exertion, and it would at the same time afford a guarantee and a proof to the public that none except persons thoroughly qualified could obtain the certificate of the Society.

It may be added that the proficiency of the successful pupils was such as to call forth the approbation of all who were present; and Mr Gabriel, the Secretary of the Royal College of Veterinary Surgeons, who attended the examinations, expressed himself highly gratified at the correctness and variety of the students' attainments.

*Twenty-eighth Session, 1850-51.*

Mr Burn Murdoch of Gartincaber, who succeeded Mr Fergusson of Woodhill in 1834, resigned the Chairmanship of the Veterinary Committee in 1850. By his unremitting attention he materially assisted in obtaining for the Veterinary College the position which it occupied at this time. The efficiency of its public examinations, and the value of the Society's certificate were much enhanced by the assiduous and admirable manner in which Mr Murdoch, at great labour to himself, annually presided over these examinations. At the General Meeting in January 1851, the thanks of the Society were most cordially voted to Mr Burn Murdoch for his valuable services during a period of sixteen years. At the same time Mr Goodsir, professor of anatomy, was elected Chairman, with the heartiest approval of the Society.

*Juries Bill.*—In 1851 a Bill was introduced into the House of Lords by Lord Beaumont, exempting veterinary surgeons from service on juries, but restricting the privilege to members of the Royal College of Veterinary Surgeons. The Society applied for an extension in favour of veterinary surgeons educated in Edinburgh and holding the Society's certificate. The real promoters of the Bill were the Royal College of Veterinary Surgeons, and they abandoned the measure rather than permit its provisions to be extended to the Society's graduates.

In reporting on the course for 1850-51, Professor Goodsir said that the College had been in such an efficient state hitherto that he had very little to mention in reference to it. The lectures had been conducted as usual; and if they might judge by the progress made by those students who came forward for certificates, the success of the College, under its different teachers, had been very great. He had some experience in the examination of students, and he must say that he had not been in the habit of meeting with more satisfactory progress among the members of his own profession. He had on this year's examination of the Veterinary College, which took place on the 21st and 22d April, ventured on a slight change in the arrangement. Hitherto the plan adopted was to examine one student at a time; but this season they had three students under examination in three different departments at the same time—first, in anatomy and physiology; secondly, in chemistry and therapeutics; and lastly, the three students were examined by experienced veterinary surgeons. The number of students under examination this session was somewhat less than on the

previous year, but not more so than was to be accounted for by the variation which always occurred in these matters. Twenty-three individuals had certificates conferred on them this year.

*Twenty-ninth Session, 1851-52.*

The examinations for this session, which took place on the 19th and 20th April, were of a strict and searching kind, and fully sustained the reputation which the College at the time had so deservedly secured. The general appearance of the students and intimate acquaintance they displayed, both with the scientific and practical parts of their profession, were highly satisfactory, and convinced every one present not only of the capacity of the students sent forth from the College for the intelligent discharge of their professional duties, but also for raising to a higher position a class whose services are so important, alike to the cause of humanity and the interests of the agriculturists of the country. The system of examination first introduced last year was again adopted. Four sub-committees were appointed, and the examination of the students was thus proceeded with at four different tables. At the conclusion of the examinations, certificates were conferred on twenty-three students.

*Thirtieth Session, 1852-53.*

The examinations for the thirtieth session took place on the 21st and 22d April, and were, as formerly, under the superintendence of Professor Goodsir, the Convener of the Society's Veterinary Committee. He was assisted by a number of medical gentlemen of the city, as well as by several veterinary practitioners from a distance, who came to re-visit their *alma mater*, and to express the high value they attach to the Institution. Both England and Ireland supplied on this occasion representatives of the veterinary profession. After a carefully conducted and strict examination, certificates were given to seventeen of the candidates.

At the conclusion of the examinations, Professor Goodsir, in addressing the students, alluded to the necessity which still remained, even after receiving the certificate of the College, for a continued prosecution of their studies. He especially recommended to them the earnest prosecution of the duties of their profession, and at the same time a careful perusal and study of the experience of others. The Professor also alluded to the extremely creditable appearance which the students had made during the present examination. From his own experience of these matters, he could appreciate the care and attention, as well as the great ability, which those who are engaged in



conducting the Institution must have brought to bear on the discharge of their duties. In reporting on the College to the General Meeting in July 1853, Professor Goodsir said he had much pleasure in stating that for the efficiency of the Examining Board, the Society was indebted on the late, as on former, occasions to the zeal and energy of a number of members of the veterinary and of the general medical profession. He more particularly directed the attention of the Society to the increasing interest taken in the Edinburgh Veterinary College and its annual examination by members of the veterinary profession itself. The great interest taken by the leading veterinary surgeons in the examination of the candidates on points of practice would, he believed, give much satisfaction to the Society, as affording a guarantee that their Veterinary Examining Board, however efficient in matters of science, was not, on that account, forgetful of the practical bearing of a professional education. On this occasion it was reported that the building of a new class room had been commenced, and that the former class room would be thrown into the apartments formerly employed as a museum.

*Thirty-first Session, 1853-54.*

In the absence of Professor Goodsir, Captain Falconar of Foxhall, presided at the examinations on 24th and 25th April, for the thirty-first session. The education showed a satisfactory standard, and twenty-two certificates were granted. After the prizes had been awarded, Captain Falconar alluded to the absence of Professor Goodsir, and to the improving state of his health, which gave the gratifying prospects of his being able next season to undertake the duties he so ably discharged. He also referred to the very satisfactory position of the Veterinary College, and congratulated Professor Dick on the high proficiency of the young men whom he was sending forth as veterinary practitioners. He trusted they would advance in their profession by the aids of experience and extended reading, and thus sustain the character of the Institution, and receive the respect of their neighbours and the confidence of their employers.

*Thirty-second Session, 1854-55.*

At the examinations on 24th and 25th April 1855, Professor Goodsir, the Chairman of the Examining Board, was absent from indisposition, but his place was ably filled by Captain Falconar of Foxhall. Prior to each day's regular business, all the pupils were carefully tested as to their acquirements in veterinary medicine and surgery, by the veterinary surgeons

who collected this season in unusually large numbers from all parts of the kingdom. Twenty gentlemen presented themselves for examination. They were required, in the first place, to examine and report upon the soundness of horses—a useful practical ordeal which was instituted this season for the first time. The certificate was awarded to fourteen students.

On the conclusion of the proceedings, the Chairman, on the part of the Highland Society, expressed regret at the absence, from bad health, of Professor Goodsir, the Convener of the Veterinary Committee. He then alluded to the obligations of the Society to the professional gentlemen who had given assistance in the examinations, thus raising the standard of education at the College, and giving encouragement to the instructors in their labours. The Chairman then expressed to Professor Dick and his able assistants the gratification which had been given by the continued progress of the College, and by the success which attends veterinary surgeons from his establishment who have settled in the different districts in Scotland—science thus making way against prejudices. The examination of horses as to soundness was a feature which was prominently brought forward this season. The Chairman, in conclusion, strongly recommended the farmers of this country to avail themselves of the facilities which were now afforded by means of this College for securing the great advantages of a scientific treatment of the diseases of stock—a department of rural economy with which the success of farming was so intimately connected.

*Thirty-third Session, 1855–56.*

At the examinations for this session, which took place on the 22d and 23d April 1856, Captain Falconar, on taking the chair on the part of the Highland Society, expressed the sincere regret with which he and every gentleman connected with the College felt at the severe loss which they had sustained in the death of their lamented friend Mr Barlow, who had gained the esteem of all by his kindness of heart and his earnest devotion to the cause of veterinary science. Captain Falconar also remarked on the blank which had occurred amongst the examiners who, at this season, give their attendance from distant quarters, in the death of Mr Edward Dycer, V.S., Dublin, also prematurely cut off in the middle of a career of much usefulness, who had for many years attended to give his assistance to this College, of which he was a distinguished alumnus. Twenty-six gentlemen presented themselves for examination, and certificates were awarded to twenty-one.

Professor Goodsir, at the close of the examinations, delivered the following address:—"In occupying this chair, after an

interval of two years, I have to express my extreme regret that circumstances should have prevented me from performing duties which, however inadequately accomplished on former occasions by me, were always to myself a source of pleasure and satisfaction. I do not know in what terms to express my obligations to Captain Falconar, who has taken my place here for two years past, and during the examinations on the present occasion. I would only express a hope that I may be able in future to fulfil in a satisfactory manner those duties which he has so fully and efficiently accomplished. The interest which attaches to these examinations depends upon the great public importance of veterinary knowledge. I am not quite sure that the British public is so fully alive as it should be to the great economic value of veterinary science, and the extreme importance of sound veterinary education. The peculiar genius of the British constitution leaves this, like many other important matters, to individual and corporate energy. As a necessary consequence, our British Veterinary Schools, however sound and scientific the information may be which is disseminated by means of them, have not that imposing aspect to the public which the kindred institutions on the Continent, endowed and organised by their respective Governments, usually present. I allude to this matter merely as an illustration of the great national value of good veterinary schools, and of the importance of bringing that value fairly under the notice of the general public. If I may be permitted to indulge in a little national feeling in reference to a matter which is not national but cosmopolitan, I would observe that in Scotland we have considerable ground for gratification in the possession of a Veterinary School, which, founded and carried forward by Professor Dick, has secured the approbation and co-operation of the Highland Society, a sufficient guarantee to the public that the object which the school has in view is one of national importance. It will be my duty, as Chairman of their Veterinary Committee, to report to the Highland Society the result of these two days' examinations; and it affords me much pleasure and satisfaction that I shall be able to record the continued efficiency of the establishment, and the excellent appearance made by the successful candidates for the certificate. I cannot allude to these matters on the present occasion without recollecting the difficulties Professor Dick has had to encounter during the session now concluded. It is painful on an occasion like the present to allude to the great loss this school has sustained in the death of Mr Barlow. Almost all of us, as his personal friends or pupils, knew him so well, that I may be permitted merely to observe that I believe the loss of such a man is not only felt in the school of which he was a teacher, but that his profession generally deploras the

disappearance from the scene of one who presented so fully, and with so much truthfulness and simplicity, the scientific and practical accomplishments, with the general character which ought to constitute collectively the professional man. I have now to thank, on the part of the Highland Society, the gentlemen who have been engaged during these two days in conducting the examinations. The duties of an examiner, on an occasion like the present, are highly responsible and somewhat painful. The scientific acquirements and professional position of these gentlemen are sufficient guarantees for the manner in which the duties have been performed. I have now to address a few remarks to the successful candidates for our certificate. The profession, for the practice of which you have now obtained certificates, is a scientific art. It involves in its study science as well as art. It includes certain subjects to be known, as well as certain things to be done. Now, as a scientific art advances, as yours has lately done very rapidly, its acquisition by means of study becomes involved in greater difficulties, for much time is necessarily spent during pupilage in acquiring the knowledge, while little is left for gaining practical experience. You are not to suppose, that in holding a certificate, you necessarily possess professional capability. Your certificate is merely a certificate of the amount of talent and knowledge exhibited by you in your examination. It remains with yourselves henceforward to complete your education by a careful and continued course of self-tuition, a course through which every successful practitioner of medicine, in any of its departments, has gone through. You must, in the first place, henceforward keep up and increase your scientific knowledge. You must not oppose it to practical experience—it is one of the means, and in your profession a necessary means—to that end. Anatomy and physiology are the sciences in which, as practitioners, you ought most assiduously to continue your studies—this is easily done, for the subjects are always at your disposal. In the second place, examine and study your cases carefully. Study one case, or group of cases, at a time—the abundant leisure which early practice affords will facilitate this. Note your cases. Always endeavour to study your cases from an anatomical and physiological point of view. The great masters in your profession have ever done so. Procure the means of doing this. Make *post-mortem* notes. Remember the diagnosis is the primary object in a case—the treatment in general follows as a matter of course. But how is all this to be done in the midst of practice? Regulation of habits and general character are all important to the practitioner, and more especially in reference to professional knowledge and experience, the habit of regulating your time is essential. When business increases, you will be prepared by such a course

of self-tuition to meet the requirements of your position without confusion, and to continue your system of professional improvement. The public appreciates the results which follow from such a course of training. By following up such a course, you secure professional success for yourselves, and advance the position and social importance of your profession."

Shortly before the death of Mr Barlow the Highland Society had decided upon adding to its Transactions quarterly reports on the diseases of animals. It was not given to Mr Barlow to put into practice the plan he had conceived to meet the Society's wishes. It was thought fit, however, not to abandon the subject, and Mr Gamgee, who succeeded Mr Barlow at the College, kindly undertook the editorship of a Veterinary Department in the Society's Transactions, which was commenced in October 1856, and conducted with much ability for a year.

*Thirty-fourth Session, 1856-57.*

As an instance that the claims and merits of the College were at this time yearly becoming better known and more widely appreciated, it may be noticed that at the examination of the thirty-fourth session, which took place on the 21st and 22d April 1857, forty-one gentlemen presented themselves, of whom thirty-seven obtained the Society's certificate—a greater number than on any former occasion. Professor Goodsir, the Chairman of the Examining Board, was absent, but his place was ably filled by Captain Falconar of Foxhall. Every pupil was subjected to a careful examination of fifteen minutes' duration at each of the four Boards.

Captain Falconar, after announcing the names of the gentlemen who had received their certificates, congratulated Professor Dick on the success of the College. He considered it most desirable at this time that veterinary science should be encouraged, when disease threatened us from foreign countries, when the price of stock was so remunerative to the farmer, and when the consumption of animal food was so great—the best test of the general prosperity of the country.

In the report for this year, submitted to the general meeting in July, it was stated that the Directors continued to be deeply indebted for the services of the many members of the medical faculty who, by conducting the examinations, afford the public a guarantee that the certificate is not unworthily conferred.

*Thirty-fifth Session, 1857-58.*

The examinations for this session took place on the 20th and 21st April—Captain Falconar of Foxhall presiding. Thirty-three gentlemen presented themselves, and after an examination

in anatomy, physiology, chemistry, and materia medica, diseases of horses, and diseases of cattle, sheep and pigs, twenty-three were declared worthy of the Society's certificate.

In 1857 the Directors, in noticing the College, reported that it was rarely that an institution of so public a character, so useful in its objects, and successful in its career, owed its origin and maintenance so much to the energy and reputation of one individual as did the Veterinary College to Professor Dick. At the same time, the Board was gratified in thinking that the Society's certificate, and the examination on which that was granted, had tended to strengthen his hands and add to the reputation of the Edinburgh College.

*Thirty-sixth Session, 1858-59.*

On the occasion of the examinations for this session, which were held on the 19th and 20th of April 1859, the Society's certificate was conferred on twenty-two students. The Society was again indebted to the voluntary services of professional men of high standing in conducting these examinations, and the Directors were gratified at being able to report the continued assurances they received from the examiners as to the efficiency of Professor Dick's establishment. In the report for 1859 Professor Allman said the examination for that year was conducted with the most rigid scrutiny, and the answering was such as to be highly creditable to both pupils and teachers. He spoke, however, more especially of that department in which he felt himself most competent to give an opinion, namely, the purely anatomical, and he had no hesitation in saying that there the result of the examination was of such a nature as to evince, in almost every instance, industry and proficiency on the part of the candidate and judicious teaching on that of the school in which he was educated. To Professor Allman's report a note was appended by Professor Balfour, concurring in the opinion above expressed by Professor Allman, and stating that he had also great pleasure in bearing witness to the excellence of the examination in materia medica and chemistry.

In June 1859 the Society resolved that the students of any veterinary teacher in Scotland, established under Her Majesty's sign manual, should be eligible for examination for the Society's certificate, and they authorised the Examining Board to take on trial any party duly qualified who made application for the Society's certificate.

*Thirty-seventh Session, 1859-60.*

The College continued to be efficiently and prosperously conducted during the session. The number of students resort-

ing to it from all quarters was increasing, and the reports which the Directors received from the eminent professors, and the members of the medical and veterinary professions who formed the Society's Veterinary Committee and Board of Examiners, contained the most gratifying assurances of the manner in which Professor Dick and his staff of teachers discharged their important duties. At the examinations which took place on the 24th and 25th April there were in all thirty-five students, and the certificate was conferred on thirty-three.

Professor Goodsir, at the close of the examinations, said he could not allow that opportunity to pass without saying a few words to the successful candidates. He did not require to enlarge upon the object for which they had undergone these examinations, and the great purpose for which they had received their certificates. They were aware that such an examination was an arrangement necessary for securing to the public efficient veterinary practitioners. He needed also scarcely to warn them against the assumption that their studies were completed, and that they were to enter upon an entirely different course of professional pursuit now that they had obtained this certificate. On the contrary, he believed that what he now stated would be corroborated by their examiners and their teachers, that their real veterinary education was about to commence. They had hitherto been trained in certain departments of science, and they were called upon, now that they were about to enter upon the actual duties of life, to continue, as far as their time and their means would admit, their scientific studies. What was looked for from them was not scientific efficiency but practical efficiency; but it so happened that every art, however simple it might be, was really in itself a scientific art—it was something which could be better done when they had an intimate knowledge of the principles upon which it was founded than if they were ignorant of those principles. The learned Professor proceeded to show the necessity of a knowledge of the various departments of science to the intelligent and successful practice of the art of medicine; and after stating that scientific training was equally necessary for veterinary practitioners, he said the public had at last become convinced—more particularly by the exertions of the Highland and Agricultural Society, as also by those of their excellent Principal and Professor, Mr Dick—of the propriety of combining scientific with practical training. He had the pleasure of stating to them that the appearances which they had made this season were highly satisfactory. He believed the examiners were at one upon this, that their answers had evinced not only careful training on the part of the teachers, but continued study on their own part, both in the scientific and practical departments of the profession. On no former occasion

had he seen the examiners more satisfied with the result of their labours, and he should have much pleasure and satisfaction in reporting the gratifying result of these two days' proceedings to that body by whom he was deputed to superintend the examinations.

Dr Alexander Wood, President of the College of Physicians, said that from the part he took in the examinations, he was satisfied the College was never in a higher state of efficiency than at present. Several hundreds of medical men had passed examinations under his care, and he had seen no students better qualified than those of the Veterinary College whom he had that day examined.

Mr Hallen, V.S., said he had now attended the Examination Board for many years, and that he had never examined a better class of students than those he had done that day.

Professor Simpson (afterwards Sir James Simpson, Bart.), in alluding to Professor Dick, said that no man had a higher title to be recognised as a benefactor of his race than Professor Dick for his having instituted such a college.

In a letter which was read to the general meeting in June, Professor Goodsir said—I conceive the mixed character of our Board of Examiners, consisting, as it does, of veterinary practitioners and of members of my own profession, is highly advantageous, and that, so far as an examination of any kind whatever can determine the practical efficiency of the successful candidates for a professional certificate, the examinations I have the honour of superintending for the Highland Society appear to me to fulfil that object.

#### *Thirty-eighth Session, 1860-61.*

At the examinations of the students on the 23d and 24th April 1861, thirty-eight gentlemen presented themselves for examination and thirty-six passed.

After the presentation of certificates, Professor Goodsir said it would now be his duty to address a few words to the recipients of those honours on the step which they were about to take in their personal career. Hitherto they had only been engaged in a preliminary and preparatory phase of professional life, but they were now about to go forth to the world, and to apply the knowledge which they had acquired to the active and often arduous duties of their profession. They could not be said to have acquired that form of experience which characterises the efficient practitioner, but the more carefully they had prosecuted their studies in the College, the more easy would they find the task of keeping up their professional knowledge hereafter. In these times of inquiry and progress, unless they



attended sedulously to the work of keeping themselves abreast of the improvements and extensions of professional knowledge made from time to time, they could not expect to attain that amount of success to which their present position and acquirements entitled them to look forward. The veterinary practitioner was now in a much better position for prosecuting his professional studies than members of the other branches of the medical profession. The medical practitioner, after he left college, often felt considerable difficulty in keeping up his acquaintance with elementary branches of study, such as anatomy and physiology; but there was no such obstruction in the way of the veterinarian. His subjects were easily obtained, and he would therefore counsel them to keep up and extend, as they had opportunity, their knowledge of anatomy, physiology, and chemistry. He need not say how much they were indebted to their teachers in that place, and how they should endeavour to advance the interests of the school in which they had been educated; but he might assure them, speaking both for himself and the other examiners, that they had been very highly gratified by the appearance made by all the students under examination. The average of the ability and information exhibited was very high indeed, and fully warranted him in repeating what he stated last year, and what had also been expressed by other examiners, that there was a growing improvement in the character and tone of those examinations. He fully concurred in the observation made to him that day by a medical colleague, that the style of the answers given there to the examiners was by no means inferior to that which they expected and were accustomed to meet with in examinations in the Medical Corporations and the University. It would give him very great pleasure to report to the Highland Society the highly satisfactory appearance which the students and competitors had made upon the present as upon former occasions, and the great gratification which the examinations had given to all the examiners.

*Thirty-ninth Session, 1861-62.*

During the session the lectures were attended by a large number of pupils, and at the annual examinations, on 22d and 23d April 1862, the Society's certificate was conferred on thirty-eight candidates.

Professor Goodsir, as chairman of the examiners, delivered a closing address to the students. He said—"Gentlemen, I am very unwilling to occupy you with any extended observations, but there are a few remarks which it is quite necessary that I should make in closing the business which has occupied us

during the last two days, especially in reference to the successful candidates. I need not remind you that your professional career embraces two great periods—that in which you are acquiring the elements of professional knowledge, and the more extended period during which you will be called upon to engage in the active duties of your profession. You have now just terminated what is usually called the period of study; but, although henceforth you are entitled, in virtue of the certificate which you have now received, to perform the duties of your profession, and the public expect you in virtue of that certificate to discharge these duties efficiently, you must not suppose yourselves quite prepared and capable of doing so without further study. The fact is that you are now only entering on your true professional education. Hitherto your great object has been to acquire such an amount of scientific and practical information as could be obtained in the comparative hurried and anxious period of pupilage; but it is now only after passing through this preparatory stage that you will have leisure to digest what you have acquired, and to fit it for practical service. For you must remember that no amount of knowledge acquired by listening to the instructions of others, or even by personal reading, careful reading, and observations as pupils, can produce the accomplished practitioner. You are therefore to keep in mind two considerations, which, I think, will assist you in your future proceedings. You are to remember that you are to be constant students—that it is only afterwards, and in connection with the everyday duties of your profession, that you will acquire the necessary tact and experience. What you are to do is to deduce from and evolve out of the scientific knowledge, which you have obtained during your course of study and training, certain principles on which you are to proceed in the treatment of injury and disease in the domestic animals. You will bear in mind that the duties devolving on medical practitioners in any department presents this peculiarity, that it is quite impossible by books or tuition to indicate all the circumstances in any individual case. No one case that you meet with in practice is exactly the same as any former one, and the consequence is that the medical profession requires, in addition to mere possession of knowledge, practical and scientific, and in addition also to the possession of manual dexterity and practice, the constant exercise of judgment. It is evident, therefore, that your first qualification is judgment, under the exercise and influence of experience. I have to bring before you the advantages of education which you have received in this establishment, as they have come under my observation during the discharge of my duties as one of the examiners. I am happy to say that the character of the marks placed against your names indicates that you have not only been stored with

information, but I am satisfied—and I believe that I may say my colleagues, the other examiners, are also satisfied—that you have exhibited a very great amount of judgment in answering the questions put to you in the course of the examination. I may say, indeed, that I have seldom seen evinced more strongly the possession of a thorough grounding in the elements of medical knowledge, and this I attribute to your individual capacities and assiduity, as well as to the thorough and efficient training through which you have gone under your excellent teachers. I have more than once, on former occasions, indicated my conviction that this establishment is as fully developed, in regard to the topics insisted on in the lectures, as is consistent with the present state of your profession, and consistent also with justice being done to them by you within the comparatively short course of two years during which you are engaged.”

Professor Goodsir then proceeded to point out that man was much more liable to disease than the lower animals; that wild animals enjoyed almost a complete immunity from disease; and that it was only in the case of the domesticated animals that any approach to the severity and complication of the diseases incident to the human frame were to be found. He maintained that wild animals were free from disease, because they were guided by unerring instinct in the selection of their food, as well as in their daily habits; that man was subject to disease, chiefly because either ignorantly or wilfully he broke and neglected the laws of health; and that the domesticated animals showed the same fate, because they were subject to the care and guardianship of man, and were not left to follow their natural instincts. It was the duty, therefore, of veterinary surgeons carefully to study the natural disposition and habits of the various domestic animals which they were called upon to treat; and in all cases where it was possible—in the case of horses, for example, which differed from one another as much as human beings differed from each other—they should make themselves acquainted with the individual temper, disposition, and constitution of the animal under their care.

*Fortieth Session, 1862–63.*

At the close of the fortieth session, the examinations were held on the 21st and 22d April, and the Society's certificate was conferred on twenty-seven students.

Dr Craigie, President of the Royal College of Physicians, who occupied the chair, delivered a brief address. He said it was scarcely necessary that he should detain them long on such an occasion, but he could not lose the opportunity of expressing his

high gratification with the character of the two days' examinations which had just been concluded, and at seeing the great progress that had been made in the various branches of veterinary art. It must, he thought, be very gratifying to the teachers connected with the Veterinary College, and doubly so to the students themselves. He would have the successful candidates distinctly to understand that although they had got certificates—those marks of proficiency and stamps, if he might so say, of their professional character to the public—their education was by no means finished. They should distinctly understand that they were to continue to extend their education—to make the education they had already acquired more accurate, if possible, and by experience to endeavour to maintain and enlarge their scientific knowledge. No science was stationary, and that remark was peculiarly applicable to veterinary science. The greatest changes had been introduced into the veterinary art during the last thirty years—such changes that, could they be stated in detail, would be regarded as perfectly astonishing—and they might rest assured that there would be further changes of an important character introduced within the next ten or twenty years. They should therefore endeavour to keep up with these improvements, always exercising their own judgment as to what improvements should, and what improvements should not, be adopted. They might depend upon this, that nothing in after years would adequately compensate for want of knowledge. Whenever any of those he was now addressing should, in the course of their professional career, see disease in an animal, it should be their duty to ascertain whether it was curable or not, and employ all the means in their power to restore the animal to health. The lives of these animals were extremely valuable to the country. The students were to devote their attention more especially to the treatment of the horse, but, along with it, to the care of the whole of our domestic animals, as on the preservation of their health depended in a great degree the material wealth of this country. After stating that the business of the examinations had been to him a source of unmixed satisfaction, Dr Craigie said the progress made and the intelligence displayed by the candidates for the certificate had been very remarkable. It was scarcely necessary to advert to the great necessity and importance of paying the utmost attention to those domestic animals of which the members of the veterinary profession might be said to have the charge, and which constituted such a large proportion of the material wealth of our country. There were two great elements in our domestic economy—the one was the breeding of stock, and the other agriculture. These were closely connected, and unless we could understand aright the diseases to which these domestic animals were subject, and the

most effective mode of preserving their health, it was simply impossible that we could be successful in either of the branches he had mentioned. He did not require to tell them how very highly this country stood in regard to the breeding of stock. In this respect he might say that we excelled every other country in Europe. In England, indeed, we have an unexampled breed of horses. It was once said by an eminent lexicographer, that in England oats were grown as food for horses, and in Scotland as food for men. But, then, where could they find such horses and such men?

On the same occasion, Professor Dick remarked it was no easy task to carry through a whole session with a class of some eighty or ninety young men—wild, sometimes, and riotous—careless, and sometimes stupid—sometimes high-spirited, and at other times taking up notions of their own. This was no easy task; it was no easy matter to curb such pupils, yet he was able to do so with benefit to themselves until the last hour of the present session. He hoped he might be able to hold the reins for some time longer, and if Providence ordained that he should die in harness, he would keep on by these reins as long as he could, and endeavour to drive up to the mark all the students that entered the Veterinary College.

With reference to the nature of the examinations, Dr Andrew Wood said he had heard the assertion made that the examination of students made at the Veterinary College was a sham. To this his reply would be, that if it was a sham, then the examination of all graduates in medicine was a sham, the examination of all the candidates who came forward at the College of Surgeons was a sham. From an experience of twenty years as an examiner at the College of Surgeons of Edinburgh, he would say that the examination there was not more strict and searching than that of the Edinburgh Veterinary College. And he might say further, that the standard in regard to efficiency as a veterinary surgeon was so high as to warrant him in saying that any one going forth with that certificate was undoubtedly a member of a liberal scientific profession.

During the currency of this session, Professor Dick commenced to publish, in the Society's Transactions for January 1863, a summary of the cases of diseases, injuries, &c., registered in the clinical transactions of his College, for the purpose of showing a general outline of the amount of practice which the students attending the College had of obtaining a practical knowledge of their profession. Notes of the most interesting cases were taken by the more advanced pupils, who, under regulated direction and supervision, were allowed to have more or less personal charge and management. At the same time every student had an opportunity of seeing almost all the cases;

observing the symptoms, and witnessing the treatment, therapeutic and operative. For the period from 1st January to 30th September 1862, the number of cases amongst horses was 1602; amongst neat cattle and sheep, 208; and amongst dogs, cats, &c., 133—in all, 1943 cases. For the quarter to 31st December 1862, the number of cases was 540, making for the whole year 2483. The number of cases for the following year was 2385. The last number of the interesting proceedings at the College was published in March 1864.

*Forty-first Session, 1863–64.*

About ninety students attended the lectures during the session, and at the close of the examinations, which were held on the 19th and 20th April 1864, the Society's certificate was conferred on twenty-seven pupils.

In presenting the medals and certificates to the successful competitors, Dr Craigie stated that the manner in which the students had gone through their examination was highly creditable, not only to themselves, but to Professor Dick and the other teachers connected with the College. The questions which had been put by the examiners to the various candidates had been exceedingly well answered, although some of the questions were of such a kind that he was very doubtful whether he would have been able to answer them himself.

Dr Burt said he considered it a great honour to be associated as an examiner with such an institution as the Veterinary College. He could bear the utmost testimony to the high qualifications of the venerable Professor and the other teachers connected with it—to their unwearied industry, their devotedness to work, and the success with which it was attended. He considered that he and the other gentlemen who had taken part as examiners in this day's proceedings were not only rendering a service which was well deserved by Professor Dick, but performing a duty which they owed to the city and to the country.

Bailie Johnston said Professor Dick had ever occupied a most important place in the Town Council of Edinburgh, while he had rendered great and valuable services for the advancement of that art of which he was a devoted teacher. He had, in fact, made the city of Edinburgh known throughout the whole world as a place for instruction in the veterinary art; and by the warm attachment of a very large number of pupils, he had gained for himself an esteem and influence which could not be excelled.

On this occasion Mr Williams, then of Bradford, stated that three Veterinary Societies had been recently formed in England—namely, the North of England, the Yorkshire, and the Lanca-

shire; and it was a somewhat remarkable circumstance that the Secretaries of all these Societies were gentlemen who held the certificate of the old Clyde Street College of Edinburgh.

Dr Andrew Wood said he had been for twenty-five years an examiner in connection with the College of Surgeons, and he would be greatly gratified if many of the students who appeared there as candidates could answer such questions as those which had been put to the candidates at the Veterinary College.

*Forty-second Session, 1864-65.*

Lectures on all the subjects included in a full veterinary curriculum were given within the College during this session. At the examinations, which took place on the 18th and 19th April 1865, the chair was occupied on both days alternately by Dr Craigie and Professor Goodsir. Twenty-one students having passed their examination satisfactorily, received certificates qualifying them to practise. On reporting the result of the examinations to the general meeting of the Society in June, Sir Alexander Gibson-Maitland said—"I have been in the habit, for many years past of attending the examinations. They are of an extremely interesting nature, and I cannot help saying that any gentleman who attends these examinations, presided over by men of the greatest eminence, must bring away with him useful information. I think this Society and the public in general are extremely indebted to Professor Dick for the careful manner in which he educates veterinary students. They ought to remember that each day the value of their stock was increasing, and it was of the utmost consequence that they should have men well qualified and trained to look after them."

*Forty-third Session, 1865-66.*

During the currency of this session, Professor Dick died on the 4th of April 1866. He was born in May 1793, and was consequently in his seventy-third year. About three years before his death he seemed to feel the decay of his powers when he expressed himself, in April 1863, as not feeling so supple as he once was. He attended the Society's agricultural examinations on 7th March, about four weeks before his death, and this was his last visit to the Society's chambers. During his long connection with the Society—forty-three years—the fame which his talents had acquired attracted students to Edinburgh from all parts of the world. At his death Professor Dick endowed the Edinburgh Veterinary College, and bequeathed it in trust to the Lord Provost, Magistrates, and Councillors of the City of Edinburgh.

Thirty-two students went up for examination this year on 16th and 17th April, and certificates were conferred on twenty-six.

At the close of the examinations Mr Hall Maxwell, in presenting the Society's medals to the successful candidates, said he could not rise to discharge the duty with the same feelings of delight and gratification that he did on former occasions, for they missed that day one dear old familiar face, the absence of which cast a gloom upon them all. He could not help feeling deeply—more deeply than he could express—the loss which this school, the students, and the public had sustained by the death of their dear old friend Professor Dick, the founder of this institution. He concluded by impressing upon the students that they were the last of those who had been educated by Professor Dick. They should carry that remembrance through life; and to whatever part of the world they might go, they should endeavour to do credit to his name and to his memory.

Professor Goodsir, in closing the proceedings, addressed the students, and set before them the position they now occupied. They had passed through their period of training, and were now called upon to enter on active professional life, and he wished to impress upon them one or two principles which they ought to consider. It was very natural in a student when he got his certificate to imagine that he had completely altered his position, and had nothing more to do with study. But that was a great mistake. All professional men must continue the habits of the student, especially in these times when science and all other departments of human knowledge were improving so rapidly. The great object of their training in that institution was that they might be able to understand the principles of animal life. They were not there to be crammed with empirical rules for the treatment of disease. The great object had been to imbue them with scientific principles, by which they must always and ultimately be guided. He had put various questions to the students while under examination, and was glad to observe that they had got some grasp of physiology, which they might increase daily with the opportunities they would have. He concluded by alluding to the different circumstances in which the present examination had been conducted from any of those which preceded it. They no longer saw the figure which attended during the whole of the two days, kindly addressing successful and unsuccessful candidates, overlooking, but never interfering. He spoke of the high professional character of Professor Dick, of the aptitude which he displayed in the cultivation of veterinary science and art, of the gradual progress which he made, and the determined manner in which from first to last he not only attended to student work, but to practice; moreover, he exhibited in a very marked manner a feature of the real profes-



sional character which he commended to them—namely, thorough apprehension of the nature of truth; that was to say, he could not write a thing, nor could he discuss any question, except in the most perfectly open, simple, and fundamental manner.

Sir Alexander Gibson-Maitland, in reporting to the general meeting of the Highland Society in June that the examinations had been carried on and completed with the usual success which had for many years attended them, said the examinations this year had a melancholy interest. The moving spirit in that class-room had passed for ever from among his pupils and his friends. He felt quite certain that he expressed the feeling of the members of the Society when he said that every one regretted the loss which the Highland Society had sustained by the death of Professor Dick; and when he said further that Professor Dick was the first educated person in Scotland who made an attempt to rescue veterinary science from obscurity, he was quite sure he took the whole public with him as sharers of that regret. After noticing the different steps taken by Professor Dick in his earlier years, Sir Alexander concluded by saying that perhaps the best proof of the esteem in which the Professor was held in Edinburgh was this fact, that year after year the medical gentlemen who attended to examine his students were among the first men in Edinburgh. He was quite sure the Society would put on their Minutes their deep regret at the loss sustained by the death of Professor Dick. The suggestion by Sir Alexander was most unanimously agreed to.

*Veterinary Surgeons' Bill.*—At the same meeting (June 1866) it was agreed to petition against Mr Holland's "Veterinary Surgeons' Bill," which excluded any one holding the certificate of the Highland Society only from calling himself a veterinary surgeon (that title being reserved exclusively for members of the Royal College of Veterinary Surgeons); the petition adopted by the Society was sent to every Scotch as well as to several English and Irish Members of the House of Commons; and thereafter Mr Holland withdrew his Bill. The passing of the Bill, it may be added, was only frustrated by the constant watchfulness of its opponents at every stage.

#### *Forty-fourth Session, 1866–67.*

From the end of last session the Society ceased to superintend the Edinburgh Veterinary College, Professor Dick having, as already stated, endowed and bequeathed it in trust to the Lord Provost, Magistrates, and Town Council of Edinburgh. The Society, however, continued to patronise it by granting medals to successful students, and to appoint a Board of Examiners.

At the general meeting in January 1867, Mr J. H. B. Hallen, a graduate of the College, was elected Professor of Veterinary Surgery to the Society, having been some time previous to the opening of the session appointed by the Magistrates of Edinburgh Principal of the Edinburgh Veterinary College.

Professor Goodsir resigned the duties of Chairman of the Society's Veterinary Committee in January 1867, owing to the state of his health and the extent of his other occupations. The Directors, in accepting the resignation, recorded in their Minutes their sense of the valuable services rendered to the Society by Professor Goodsir during a period of sixteen years.

On the 6th of March, Mr Gillon of Wallhouse was unanimously appointed to the office rendered vacant by Professor Goodsir's resignation.

The examinations for session 1866-67 took place on the 16th and 17th April, under the auspices of the Lord Provost of Edinburgh and the Highland Society, with the assistance of many of the most distinguished members of the Colleges of Physicians and of Surgeons, and a large muster of veterinarians from England as well as Scotland. The Lord Provost, before the examinations were begun, addressed the examiners and other gentlemen present, remarking that the Magistrates of Edinburgh were thoroughly cognizant of the importance of the duties intrusted to them by the bequest of their lamented friend Professor Dick, and they were determined to maintain in every respect the well-won celebrity of the Veterinary College; that in their efforts to extend its usefulness they were anxious still further to secure the active co-operation of all who were interested in this institution, and especially of the Highland and Agricultural Society, which during many years had zealously encouraged Mr Dick in his teaching, and had appointed competent examiners to test the qualifications of the young men trained at Clyde Street.

Thirty-eight students presented themselves for examination. A feature of much novelty and practical importance was this year introduced. The students, in the early part of each of the two days' examination, were individually subjected to a severe clinical test. Each had separately to examine and to write his own report on four horses which he had never before seen, and note for himself the halting gait, the damaged point, the impaired vision, or any other ailments he could discover in the animals thus for the first time presented to him. The proficiency of each candidate in performing this thoroughly practical work was duly weighed by the examiners, and constituted an important element in estimating his fitness to receive the certificate. The examinations resulted in thirty students receiving the Highland Society's certificate.

Mr Gillon of Wallhouse, in distributing the honours to those

pupils by whom they had been acquired, said he appeared before them that day for the first time as Chairman of the Veterinary Committee of the Highland Society. He had some diffidence in appearing before them for the first time, and he hoped they would bear with him in the few remarks he had to make, as he knew the duties imposed on him were somewhat arduous—that is, if they were rightly performed by him, and he would be sorry to undertake the performance of any duty he did not mean to go through with thoroughly. He also felt some diffidence in filling a position which had been occupied by one so eminent as the late Professor Goodsir, whose fame had made him not only well known in Great Britain, but who was also considered on the Continent to be at the top of his profession; and he had heard Professor Meyer in Germany acknowledge that he was, when living, one of the most learned and skilful anatomists of the day. He (Mr Gillon) had accepted the office, when it was resigned by Professor Goodsir, with great hesitation, because it was a difficult position to fill, and he did not see why he should be called upon to come before them as Chairman of the Committee of the Highland Society, and taking an immense interest in the College. He supposed it was because his friends thought, as he was very fond of sport and a lover of the horse, that he would take an interest in this College and the objects for which it was established. He might say now that he did take a deep interest in all our domestic animals, and especially in the horse. Another reason why he hesitated for some time before accepting office was, that he considered some practitioner or experienced lecturer would have been better qualified to fill it, if he could have been had, because he could have enforced upon the students better than he could how requisite it was for them to study earnestly and zealously when they were at work before they could become properly qualified and proficient veterinary surgeons. It was very satisfactory for him to be able to state that the examiners that day had been highly pleased with the various classes they had examined in the College—in fact, they talked most highly of the acquirements in veterinary knowledge of all the students who had come before them. It was from that illustrious College, which had been rendered illustrious by its founder, the late lamented Professor Dick, that a vast number of eminent and successful veterinary surgeons had gone out into the world, and these pronounced to the world the sound teaching they had received while students of the Veterinary College of Edinburgh. The examiners who had attended had done so at no small trouble and inconvenience, and he was sure they were deeply indebted to them for all they had done. He wished to remind the gentlemen who had carried off the Highland Society's certificates, that they should endeavour to keep up with the

medical and veterinary knowledge of the day; that was to say, as discoveries took place from year to year they should make themselves acquainted with them, so that they might rise in their profession, and keep up its character. There was only one thing that he would say to them further as to the foot of the horse. He presumed most of them were adepts at the removing the shoe from the foot of the horse, and also at putting one on; at least they ought to be, for in nine out of ten cases of lameness in horses, the cause would be found to proceed from some fault in the horse's foot arising from bad shoeing, or in some mistake in dealing with the horse's foot. To that very important part of veterinary science they ought to pay most particular attention. He also wished to say to the students further, that in entering life as practitioners of veterinary science, they should continue to study and persevere in the acquiring of knowledge of all matters connected with their profession. The profession was, one which he would say, from his own experience, was subject to great temptation, and he would impress upon them the necessity of strict integrity in all things. They were not to allow themselves to be led astray by any one, but keep firm and true to themselves and those principles which nothing could shake. There was one subject, that of vivisection, of which they had heard much from Paris. He was authorised to state that the late Professor Dick and his successor Mr Hallen were both very much against such a practice; in fact, it had never been resorted to in this College and country, as it was the opinion of the best practitioners and of the gentlemen he had named, that science could be well enough taught by practising on the dead animal.

The Lord Provost said, in his own name and that of his fellow-Councillors, it was with the greatest gratification they had been present at the proceedings both days. They gladly hailed so auspicious an inauguration of that institution as part and parcel of the care of the Corporation, which had been remitted to them by their late lamented friend Professor Dick; and he had no hesitation in saying that it would be the aim of the Magistrates of Edinburgh and of himself, so long as he was in office, to endeavour to realise the intentions of the founder, and carry forward the work of the College to still higher success. He reassured them of the good wishes and best intentions of the Magistrates and Council regarding the College; and said there was one matter to which he must also allude—the regret they must all feel at the loss they were about to sustain in the departure of Professor Hallen. To that gentleman they were deeply indebted for what they had seen, these two days, and what he had done to uphold the character of the College; the courtesy and good feeling he had always

displayed would not readily be forgotten. They must all regret, as he did, that Professor Hallen was about to return to India, but he was sure they would all wish him prosperity in the sphere of his labours there,—that he might preserve his health, and return to end his days in his native land, and benefit the country by his knowledge and experience.

Professor Hallen said it was gratifying for him to find that his conduct during the past session had merited the kind expression of feeling from the Lord Provost and Magistrates and the gentlemen present. It had been most gratifying for him to find the students so orderly in their conduct during the session, and so desirous to attend to their studies. Had he not had good materials he could not have met with that success which his Lordship had recognised. The chief part of the merit of the examinations was due to them, and he knew that his colleagues would concur with him in these remarks. The rules that the Lord Provost and Magistrates had instituted at the beginning of the session had been found to be of great benefit, and he had no doubt those students who had attended the first session would admit that it was a good thing to have strict rules in an institution like this.

Professor Hallen having, as above stated, been under the necessity of resigning his appointment at the close of the session in consequence of his being required to return to his duties under his commission in Her Majesty's Indian service, the Directors on 1st May 1867 passed the following resolution:—  
“The Board cannot accept Professor Hallen's resignation of the appointment of Professor of Veterinary Surgery to the Highland and Agricultural Society without recording in their Minutes its sense of the value of his services as Professor of Veterinary Surgery in the Edinburgh Veterinary College, and the great regret with which his resignation of that office has been received.”

Mr William Williams was appointed successor to Professor Hallen as Veterinary Surgeon to the Society in June 1867, having been previously nominated by the Magistrates of Edinburgh Principal of the Dick College.

#### *Forty-fifth Session, 1867–68.*

At the commencement of this session the Society instituted a chair of Cattle Pathology in the Edinburgh Veterinary College, and resolved to give an annual vote of £100 for five years towards its endowment, on condition that the patronage of the chair should rest with the Society. Mr John Adam M'Bryde was appointed to the office, which he held for one year.

Thirty-two students, who had completed the curriculum, presented themselves as candidates for the certificate at the

close of the session. The practical clinical examination, which was inaugurated last year, was an important feature in the examinations this year. As the result of the examinations, which were held on the 15th and 16th April 1868, certificates were conferred on twenty-nine students.

At the close of the business Mr Gillon of Wallhouse expressed the great interest the Society felt in the veterinary profession, and in the progress made in veterinary science. He was proud to see so many students coming forward to strive to gain this certificate. It was also matter of congratulation to observe the prosperity of the Edinburgh Veterinary College, for they must all remember how very recently the College had been subjected to no ordinary trials—namely, the loss of its distinguished founder, Professor Dick, and since that sad event, its having had twice to change its Principal. Such trials and losses might have shaken the foundations of many older and surer buildings, but it seemed to him that the distinguished Professor who had bequeathed to the College his worldly goods and property had also bequeathed much of that pith and energy of character which he had manifested during a long and useful career. Mr Gillon concluded his address with some remarks in regard to a veterinary charter for Scotland.

The Lord Provost, after alluding to the continued prosperity of the College and the efforts being made to obtain a separate charter for Scotland, said in the meantime they must do their best with the certificate granted by the Highland Society.

*Forty-sixth Session, 1868-69.*

Ninety-six students attended the College during the forty-sixth session; and at the examinations, which were held on the 14th and 15th April 1869, the certificate was conferred on twenty-nine.

At the close of the examinations, Bailie Miller, who occupied the chair in the absence of the Lord Provost, congratulated the Principal and his coadjutors in the College on the very successful results of the session. It was satisfactory to know that the different departments had been conducted in such a successful manner as to merit their warmest commendation. It was also worthy of notice that the students this year had been of a superior class, and had done credit to themselves and to the College by their exemplary conduct and behaviour. In the midst of these encouraging circumstances and signs of prosperity, however, he had to express the great loss the College had sustained by the untimely death of Mr Strangeways—an especial favourite of Professor Dick.

Mr Gillon of Wallhouse, after alluding to the loss the College and the veterinary profession had sustained by the death of Professor Strangeways, of whose abilities and character he spoke in terms of warm eulogy, suggested that some steps should be taken for organising a more efficient and special examination in practical clinical veterinary surgery, and also that there should be some preliminary examination of students before they are admitted to the College.

At the general meeting in June 1869 it was reported that it had been found that the arrangement as to the chair of Cattle Pathology was not in conformity with Professor Dick's bequest to the College; and a question had been raised as to the status of the Professor of Cattle Pathology, which it was very desirable should be settled. The Directors having considered the subject, proposed, with the approval of the Society, that they should be satisfied that the nomination and appointment of the Professor of Cattle Pathology should rest with Professor Dick's trustees, subject to the approval of the Directors of the Society—that was to say, that the College authorities should intimate the nomination, and that if the Society should approve they would then make the formal appointment. The course suggested was agreed to.

*Pharmacy Act.*—By the Pharmacy Act as amended (11th August 1869), all persons holding the Society's veterinary certificate have the power of dispensing medicines for animals under their care.

#### *Forty-seventh Session, 1869–70.*

The forty-seventh session was opened on the 1st of November 1869 by the Magistrates of Edinburgh, on which occasion Principal Williams delivered his introductory address. The attendance at the College had greatly increased in number, there being this session ninety-eight students, several of them had come from a distance—from England, Ireland, and Canada, and some even from New Zealand.

At the general meeting on 19th January 1870, Mr Gillon of Wallhouse reported that Mr William E. Duns had been appointed to fill the chair of Cattle Pathology. Mr Duns was a graduate of the College, and he (Mr Gillon) might state that in this instance, a very able man had been appointed, and he had no doubt that Mr Duns would be a credit to the College to which he belonged, as well as a great advantage to the public whom he would serve.

The clinical examination suggested by Mr Gillon last year was for the first time recognised as one of the tests, and the..

students generally made a good appearance in this department. The number of students who presented themselves at the examinations, which were held on the 19th and 20th April, was thirty-six, and thirty-one were successful.

At the close of the examinations, Mr F. N. Menzies stated that the students, taken as a whole, were of a superior class to any that had been at the College, and this was an improvement in the veterinary element which augured well for the good of agriculturists when these young men came to be scattered throughout the length and breadth of the land. Nothing could be more important to agriculturists in these days of stock-breeding than to have skilful veterinary surgeons.

The examinations were this session open for the first time to the students of any veterinary college established under Her Majesty's sign manual.

During this and the subsequent session much interest was manifested in regard to the Charlier system of shoeing horses. Full reports of the Society's proceedings on the subject will be found in Volume III. of the Fourth Series of the Society's Transactions.

#### *Forty-eighth Session, 1870-71.*

Professor William Edwin Duns, who held the Chair of Cattle Pathology, established by the Society in 1867, died on the 26th of February 1871, to the great loss of the Society and the profession.

There were over ninety students attending the College during the Session 1870-71, and out of the thirty-six who came for examination, on the 10th, 11th, and 12th April, twenty-seven passed.

The students were subjected to a careful and searching clinical examination, each candidate having to examine and report in writing on three horses, and afterwards, in the slaughter-houses, being tested in their knowledge of cattle diseases by examination both of living and dead subjects. This examination of healthy and diseased subjects was a new and important feature in the examination of this session. Clinical examinations, first inaugurated four years ago at the Edinburgh Veterinary College, are now recognised and approved of alike by the Highland Society and by the profession at large, and were also this year adopted by the examiners for the Royal College of Veterinary Surgeons. To students, professors, and the public, these clinical examinations have proved a great boon, as they stimulate practical tuition, ensure careful clinical study, and effectually prepare them to undertake the responsible and important duties of their vocation.



*Forty-ninth Session, 1871-72.*

Mr Thomas Walley, Manchester, was, at the beginning of the session, appointed to the Chair of Cattle Pathology, rendered vacant by the death of Professor Duns.

During the currency of this session, Mr Gillon of Wallhouse was nominated to the Chairmanship of the Highland Society's Committee on General Shows, when Captain Tod of Howden was, with much acceptance, named Chairman of the Committee in charge of the Veterinary Department.

Eighty-seven students attended the class of the Principal this session, seventy-seven the class of chemistry, seventy-eight the class of physiology, seventy-eight the class of anatomy, and eighty-three the class of cattle pathology. The examination took place on the 15th, 16th, and 17th April 1872; thirty-seven gentlemen went up for the certificate, and thirty-three passed.

An interesting practical examination occupied the whole of the first day. Each student was required to examine and report in writing on the soundness of a couple of horses, had to show aptitude in putting on ropes and hobbles, and then undergo a clinical examination on the site and mode of performing the various surgical operations usually performed on the lower animals. Afterwards, at the abattoirs, an examination was held on various morbid specimens, on several ailing subjects, and on the teeth of cattle and sheep as evidence of age. This portion of the Society's examinations proved an admirable test of the candidates' knowledge of the habits and disorders of cattle, sheep, and pigs,—a department of their profession which some veterinarians have hitherto been apt to overlook and undervalue.

At the close of the examinations, Captain Tod said he thought the short sessions which the students now had were not sufficient to enable them to gain a proper knowledge of their duties. He hoped that before long the sessions would be lengthened, or, if they could not be lengthened, that instead of two sessions there should be three.

Professor Williams said he, too, thought the time had come when three sessions ought to be made compulsory. He would further suggest that there should be two examinations; that at the end of the first or second year, as the case might be, there should be a first examination on elementary subjects connected with the profession, and that at the end of the third year the examination should be more practical than it was at present.

*Fiftieth Session, 1872-73.*

The examinations this session took place on the 14th, 15th, and 16th April 1873, and were for the first time held in the Highland Society's Hall, No. 3 George IV. Bridge. Twenty-nine gentlemen presented themselves for examination, and the certificate was conferred on twenty-six.

Mr Finlay Dun said that the examiners, who had for several years been in the habit of conducting these examinations, had come to the conclusion that it was very desirable that they should endeavour, if possible, to increase the attention that was paid by both teachers and taught at the Edinburgh Veterinary College to the important subject of practical clinical; and accordingly they determined last year to unite and give a prize, which would amount to something like twelve guineas, to the gentlemen who displayed the greatest amount of proficiency in this important branch of his education. This prize was competed for by thirteen candidates, and was awarded to Mr Archibald Robinson, Greenock. He need not say that, as examiners, they were very glad indeed to see the practical proficiency displayed by a great number of the students educated at Edinburgh.

Captain Tod of Howden said he was happy to see that the examinations and the classes were considered so satisfactory, and to those students who had now succeeded in finishing their course of studies he held out to them the prospect that they had before them. In the course of life they were entering upon, they must remember that they belonged to a profession of a most useful character in this country. And it was most desirable that they should not forget those things that they had learned during their course of instruction, but keep up their studies, and be able in the most satisfactory manner to attend to the wants of the community. In their position they had a certain dignity to support. The veterinary profession had now a reputation to maintain in the world, and those who were entering practice would no doubt get sufficient employment without going in the way of others. There was no necessity to canvass for business; they were sure, if they followed their profession properly and conducted themselves in a creditable manner, that they would always get employment. The best thanks of the Society were due to the examiners, and to Professor Williams, and the Professors at the College.

Mr Dollar, V.S., London, wished particularly to point out that practical knowledge had been made a *sine qua non* in the veterinary examination. Students who did not pass the practical clinical examination were debarred from going forward to the oral examinations; and two students who presented for

examination in clinical, but did not pass, had been stopped this year. He would like it to be thoroughly known that it was of the first importance that students should know their business practically. In the conduct of his business in London he frequently came into contact with students who had "M.R.C.V.S." appended to their names. He knew of two men having these letters to their names who could not count a pulse, did not know how to go about giving a horse a ball, who could not do the slightest operation in connection with a horse; in fact, they were afraid to approach one. It was with the view of avoiding the occurrence of anything of that sort with those studying here that the practical clinical examinations had been established.

Principal Williams returned thanks on behalf of his colleagues and himself for the kind manner in which their services had been acknowledged. He endorsed what Mr Dollar had stated, but he said there was something to be urged on behalf of the students. In time past they had been in the habit of giving five lectures per day, and two hours of demonstrations in the dissecting-room. With these seven hours of theoretical work, it was almost impossible for the students to find time for practical work. But this was the last examination under the old *régime*. In future, the examination would be conducted at stated periods: a minor examination in July, and a final or major one in the following April. In this way they could get quit of one lecture per day, and devote the time to practical work.

Lord Provost Cowan congratulated the Society on what he believed was the most successful examination which had been made by the College since its foundation. He hoped the attendance would continue to increase, and he could only say as Lord Provost, and as having something to do with the College, that he thought they had commenced a new era, and that the Trustees would give every assistance to their able Principal in helping him to conduct the affairs of the College successfully.

On 5th March, 1873, the Directors of the Society agreed to make a grant of £50 to the College to enable an arrangement to be made with Professor Balfour for conducting the botany class to be established in connection with the College.

The first of the preliminary examination of students, suggested last year, took place on the 15th and 16th July 1873, when twenty-six students presented themselves, and only one failed to pass.

#### *Fifty-first Session, 1873-74.*

At the general meeting of the Society in January 1874, Captain Tod of Howden reported that the chair of Cattle Pathology, which was established in connection with the Edinburgh

Veterinary College, had now been in existence for nearly seven sessions. When originally instituted, the Society undertook to give the Professor an annual vote of £100 for five years; the Directors now thought that the Society, as the examining body, should in future withdraw all money grants in aid of professorships in particular veterinary colleges; and that the advancement of the veterinary art could best be promoted by the Society annually voting a certain number of silver medals to each of the two Veterinary Colleges in Edinburgh, and to the one in Glasgow, for class competition, and a certain number of gold medals open to all the students who come up to the April examination. The grant would be paid for the current year, and would make the period for which the grant was voted extend over seven, in place of five years.

The examinations this session took place on the 13th, 14th, and 15th April 1874. There were pupils from the three veterinary colleges established in Scotland, namely, from the Edinburgh Veterinary College; the new Veterinary College, established by Professor Williams in 1873; and from the Glasgow Veterinary College, established by Professor M'Call in 1863. Out of forty-two students who presented themselves for examination, thirty-three obtained the Society's certificate.

To the two winter sessions, which until recently comprised the ordinary curriculum, attendance during a summer session was now rendered imperative, and both the Society's veterinary committee and their board of examiners were at one as to the desirability of extending the term of professional study to two winter and two summer sessions. The varied extended examinations on so many difficult and important subjects could not fail to impress those competent to judge that the proposed four sessions, embracing about eighteen months' study, afford no superfluous time or opportunity for acquiring the instructions and special knowledge now demanded of a properly educated veterinarian.

Captain Tod, in addressing the students said, that after the three days' hard work which they had undergone, he did not intend to detain them with any lengthened remarks. He was very happy on this occasion to see so many candidates come forward for examination, and he was also extremely gratified to hear from the examiners that their proceedings had been carried out so satisfactorily. He thought that the new system which they had introduced of having the practical examination carried on so near the Highland Society's offices as Mr Buist's yard, was an improvement, and he was glad that the examiners had found it to their advantage. That arrangement, he thought, they would in future continue. From what had been said during the examination, he believed that the arrangement of the Society had given satisfaction, and, by Mr Menzies' kindness, every facility

would in future be given. The extension of the course of study, he thought, had also given satisfaction. Some gentlemen that day had expressed a wish that the study in the course of time might be extended to three winter and two summer sessions. That arrangement he believed would be more suitable to many gentlemen who came forward as candidates for the veterinary profession, because many of the students came from country districts, who in the summer might assist their friends at home and devote the winter to study. He had been very much pleased in the yard to see the way in which many of the students went up to examine horses. He had been greatly disappointed in years gone by when he saw men going up to a horse without knowing the least thing about the animal. He had also listened with great pleasure, and he hoped with some profit to himself, to the examination that day, and he was sure that the proceedings had been entirely satisfactory. After thanking the gentlemen who had acted as examiners, Captain Tod said that many of the students had finished their course of education ; but, at the same time, they would remember that they must not give up studying, because there was always something to learn. Now-a-days the members of the veterinary profession were of much greater importance than they were in the olden time. The stock of the country was now of a more valuable description, and the owners of that stock would require to employ men who were not only competent to cure, but to prevent disease.

Sir Alexander Gibson-Maitland corroborated what had been said by Captain Tod as to the importance of the profession, and remarked that had there been any stockowners present, he had intended to give them a hint or two in regard to their conduct to veterinary surgeons, inasmuch as in many cases the instructions given by the surgeon were not efficiently carried out. There were often about places old grooms or cow-men, who had peculiar nostrums of their own, and frequently the masters were induced to follow the advice of these men, and to disregard that of the surgeon, the consequence being generally very injurious to the animal. In concluding his remarks, Sir Alexander counselled the students to beware of the temptations to which members of the profession they intended to enter were exposed.

The second of the preliminary examination of students took place on the 14th and 15th July 1874, when thirty-seven students presented themselves, and only six failed to pass.

#### *Fifty-second Session, 1874-75.*

The examinations for this session took place on the 12th 13th, and 14th April 1875. Forty students presented themselves for the practical clinical examinations, and of

these five were found to be insufficiently acquainted with the knowledge requisite for undertaking professional work, and were not permitted to go on with the oral examination. Out of the thirty-five students allowed to go forward for final examination, certificates were conferred on thirty-two.

On this occasion, Captain Tod of Howden, the chairman, referred to the loss the Society had sustained by the death of Dr Dumbreck, who had for many years been one of the examiners of the Society. He had been succeeded by Dr Dycer, as president of the examiners. He was glad to think that the new system of double examinations seemed to answer so well.

The third of the preliminary examination of students took place on the 13th and 14th July 1875, when thirty-two students entered their names for examination, and sixteen passed.

#### *Fifty-third Session, 1875-76.*

The adoption in 1873 of an examination in anatomy, chemistry, and botany, of pupils who have attended any recognised college during eighteen months, and which has been held annually in July, proved of good service in regulating the students' work. This preliminary examination in July last (1875) relegated to their studies a considerable proportion of the candidates, and the number now qualified to enter for this higher final examination have been proportionally reduced. Instead of upwards of forty candidates presenting themselves, as in some former years, the list from these causes this year only included twenty students, fourteen of whom passed.

At the close of the examinations, which were held on the 17th, 18th, and 19th April 1876, Captain Tod of Howden reminded the students that although they had now finished their College career, they must not consider that they had finished their education. They must, as long as they were in practice, continue trying to improve their knowledge, so that they might be more efficient. The stock of this country was now of much more value than it was in former years, and the duties of the veterinary surgeon were much more important. He urged them in their walk in life to endeavour to secure a high character and maintain the reputation of gentlemen. Nothing would do them more good in business. He hoped they each would have a successful career, and that they would not forget the College at which they received their education.

The fourth of the preliminary examination of students took place on the 11th and 12th July 1876, when forty-one students entered their names for examination, and twenty-seven passed.

*Fifty-fourth Session, 1876-77.*

Forty-five students presented themselves for examination. Of these, twenty-nine had previously passed the minor or preliminary examination; fifteen had formerly failed to pass that examination, and now presented themselves in terms of the rules for examination previous to going up for the practical and clinical, and one came under the regulation applying to members of the medical profession, or of any colonial or foreign veterinary school. Twenty-three candidates having satisfactorily passed all the examinations, which were held on the 9th, 10th, and 11th April 1877, were awarded certificates.

Captain Tod of Howden, in referring to the extended course of instruction which the students had now to undergo, said he hoped the change would result in great advantage to the profession. Formerly the course was rather short and hurried to allow of a young man being thoroughly trained in the various branches of veterinary science. They had now more time and more opportunities in every respect to get a thorough knowledge of their profession. He understood that in London, owing to the extended course of instruction, they were anxious to raise the fees. He thought such a step was quite warrantable, because in all matters where they got more they were expected to pay more. He hoped, however, the Veterinary Colleges of Scotland would not follow the example of those in London, to raise the fees to the extent they propose,—namely, from twenty-six to forty-five guineas. The Highland Society had not interfered with any of the internal arrangements of the Veterinary Colleges in Scotland, and he did not suppose that it would be induced to fall from its usual custom in a matter of this kind further than to oppose the raising of the fees beyond a moderate scale. He had been present at the practical and the other examinations, and he must confess he had been disappointed. In the previous examinations he had seen perhaps more proficiency and knowledge than was exhibited on this occasion. He urged the students to acquaint themselves with the practical part of the science, as a mistake committed at the outset of their profession was often very injurious to their prospects. It struck him that a little more attention might be paid to the study of botany, as it was important for the veterinary surgeon to know those plants which were poisonous and non-poisonous.

The fifth of the preliminary examination of students took place on the 10th and 11th July 1877, when twenty-one students entered their names, and thirteen passed.

*Fifty-fifth Session, 1877-78.*

The number of candidates who entered their names was thirty-four. Of these, twenty-four had previously passed the minor or preliminary examination; six had formerly failed to pass that examination, and now presented themselves for examination, previous to going up for the practical and clinical. The examinations which took place on the 15th, 16th, and 17th April 1878, resulted in certificates being conferred on nineteen gentlemen.

Captain Tod of Howden presented the certificates and medals to the successful students. Addressing the students, he said he was glad on that occasion to be able to compliment them on their quiet and gentlemanly conduct during the three days over which the examinations lasted. He had also been exceedingly glad to hear from the gentlemen who conducted the examinations that the candidates had generally made a most excellent appearance, and passed a most respectable examination. He hoped the success which had attended them that day would follow them through life as veterinary surgeons, and that they would maintain the good name acquired that day. He was sorry to observe in the Bill recently presented to the House of Lords by the Duke of Richmond and Gordon, as to cattle diseases, that veterinary surgeons acting as inspectors must be members of the Royal College of Veterinary Surgeons. He had taken the opportunity of pointing this out to the chairman of the Edinburgh Local Authority, and also of mentioning it at a meeting of the Directors of the Society, in the hope that action would be taken to have the wording of the Bill altered before it became law. If it was not, any person holding only the certificate of the Highland Society would be incapable of acting as an inspector under the Bill. He had also observed that of late the "Veterinarian" had repeatedly made very uncalled-for remarks in regard to the Highland Society's examinations. He was quite sure that all present were aware of the immense amount of good done for veterinary science by the Highland Society; indeed, he believed it had done more to advance the science than any other body. It was a great pity, after having carried on such a good work so long that instead of receiving thanks, the Society should receive the very reverse. In conclusion, he returned the warmest thanks of the Society to the gentlemen who year after year came forward to assist in these examinations.

Professor Douglas Maclagan, on behalf of the Board of Examiners, acknowledged the vote of thanks. From present and previous experience, he could say that while the examinations of the Highland Society were carried on with a desire to protect the



public from ill-qualified veterinarians, they were at the same time conducted in a spirit of fairness to the candidates.

As stated at the commencement of this Report, an arrangement has been made with the Royal College of Veterinary Surgeons that the holders of the Society's veterinary certificates are to be admitted members of the Royal College, and the Society is to cease holding examinations; but not to disappoint those students who may have entered the teaching schools with the view of taking the Society's certificate, the examinations will be continued till April 1881, in accordance with the former rules, it being clearly understood that unless fifteen students enter their names, no examination will be held.

APPENDIX No. 1.—*Board of Examiners appointed by the Highland Society at different periods.*

1828.—Dr Ballingall, Professor of Military Surgery; Dr Graham, Professor of Botany; Dr Borthwick; Mr William Wood; Mr William Newbigging; and Dr Knox, Lecturer on Comparative Anatomy.

1838.—Sir George Ballingall, Professor of Military Surgery; Professor Graham; Professor Lizars; Dr Borthwick; Dr Knox; Dr Robertson; Dr Thomas J. Aitken; Dr Handyside; Mr Fergusson, Surgeon; Mr Black, Veterinary Surgeon, 14th Light Dragoons; and Mr Robertson, Veterinary Surgeon, 9th Lancers.

1848.—Sir George Ballingall; Sir William Newbigging; Professor Gregory; Professor Goodsir; Professor Miller; Dr Dumbreck; Dr Pagan; Dr Gillespie; Dr Burt; Dr J. A. Robertson; Dr Lizars; Dr Duncan; Dr Handyside; Dr Malcolm; Dr Burn Murdoch; Dr Douglas Maclagan; Dr Anderson; Dr Mercer.

1858.—Professors Goodsir, Balfour, Simpson, Laycock, Gregory, George Wilson, Lizars, Bennet, Day (St Andrews), Anderson (Glasgow), and Allan Thomson (Glasgow); Drs Dumbreck, Newbigging, Douglas Maclagan, Saunders, Sellers, Omond, Gardiner, Dycer, Balfour (Cramond), Gillespie, Struthers, Alexander Wood, Andrew Wood, Burn Murdoch, Pagan, Duncan, Handyside, and Keiller.

1868.—*Chemistry and Materia Medica.*—Professors Anderson and Balfour; Drs Keiller and Andrew Wood, Mr Finlay Dun. *Anatomy and Physiology.*—Professor Turner; Drs Dumbreck and G. W. Balfour; Mr Thomas A. Dollar, London. *Diseases of Horses.*—Messrs Robinson, V.S., Greenock; Thomas Taylor, V.S., Manchester; William Anderson, V.S., Glasgow; Mr Dawson, V.S., 15th Hussars. *Diseases of Cattle, Sheep, Pigs, and Dogs.*—Messrs Steele, V.S., Biggar; William Aitken, V.S.,

Kilmarnock; John Dow, V.S., Dunkeld; John Watt, V.S., Cupar.

1878.—*Botany*.—Professor Balfour; Dr Cleghorn of Stravithie. *Chemistry*.—Dr W. Craig; A. Inglis M'Callum. *Anatomy*.—Dr Dycer; C. Cunningham; Andrew Spreull, Dundee. *Practical and Clinical Examinations*.—Thomas A. Dollar; Finlay Dun; Thomas Taylor; John Lawson; John Steele; John Borthwick; C. Cunningham; Andrew Spreull; Alexander Pottie; W. D. Connochie, Selkirk. *Physiology and Histology*.—Dr Dycer; C. Cunningham; Andrew Spreull. *Materia Medica*.—Professor Balfour; Professor Douglas MacLagan; Finlay Dun, Dr Craig; A. I. M'Callum. *Diseases of Horses*.—John Borthwick; John Lawson; Thomas Taylor. *Diseases of Cattle, Sheep, Swine, and Dogs*.—Thomas A. Dollar; John Steele; Alexander Pottie; W. D. Connochie. *President of the Board*.—Dr Dycer. *President of the Clinical Board*.—Thomas A. Dollar.

APPENDIX No. 2.—*Number of Certificates issued from 1828 to 1878. In 1844, 1845, 1846, and 1847, the Examinations were conducted by the Board appointed by the Royal College of Veterinary Surgeons.*

Session.	No. of Certi- ficates.	Session.	No. of Certi- ficates.	Session.	No. of Certi- ficates.
1. 1823-24		Brought forward	198	Brought forward	620
2. 1824-25		20. 1842-43	24	38. 1860-61	36
3. 1825-26		21. 1843-44	41	39. 1861-62	38
4. 1826-27		22. 1844-45	17	40. 1862-63	27
5. 1827-28	7	23. 1845-46	24	41. 1863-64	27
6. 1828-29	6	24. 1846-47	16	42. 1864-65	21
7. 1829-30	7	25. 1847-48	19	43. 1865-66	26
8. 1830-31	8	26. 1848-49	19	44. 1866-67	30
9. 1831-32	9	27. 1849-50	27	45. 1867-68	29
10. 1832-33	11	28. 1850-51	23	46. 1868-69	29
11. 1833-34	16	29. 1851-52	23	47. 1869-70	31
12. 1834-35	15	30. 1852-53	17	48. 1870-71	27
13. 1835-36	15	31. 1853-54	22	49. 1871-72	33
14. 1836-37	14	32. 1854-55	14	50. 1872-73	26
15. 1837-38	12	33. 1855-56	21	51. 1873-74	33
16. 1838-39	17	34. 1856-57	37	52. 1874-75	32
17. 1839-40	18	35. 1857-58	23	53. 1875-76	14
18. 1840-41	17	36. 1858-59	22	54. 1876-77	23
19. 1841-42	26	37. 1859-60	33	55. 1877-78	19
Carry forward	198	Carry forward	620	Total	1121

APPENDIX No. 3.—*Proceedings relative to a Veterinary Charter for Scotland.*

Although unnecessary to narrate all the steps taken by the Society and other public bodies with the view of obtaining a National Charter for the veterinary profession in Scotland, it is due to the agriculturists and owners of live stock in this part of the kingdom to place on record the following brief outline.

As has already been stated, the Edinburgh Veterinary School was established in 1823, under the auspices of the Society. There also existed in England the Royal Veterinary College of London. Upon the petition of certain members of that body and the late Professor Dick, a Charter from the Crown was obtained on the 8th of March 1844. The petition was signed by Professor Dick in his individual capacity, and without his holding any previous communication with the Society or its Secretary on the subject. The Professor, however, was not aware of the intention to ask the broad and exclusive privileges which were claimed, namely, the sole right to confer diplomas on persons to be distinguished as veterinary surgeons.

The attention of the Society was immediately attracted to the matter. No communication had been made to it of the petition upon which the Charter proceeded, and they had therefore no opportunity of stating the claims of the Edinburgh College. The Directors prepared a memorial giving a history of the case, and referring to the serious injury that must result, not alone to Edinburgh College, but to the public and the veterinary art, by sustaining the monopoly claimed by the Royal College of Veterinary Surgeons in London of granting diplomas. The Society was much indebted to its President the Duke of Richmond, for the exertions made by His Grace in 1844 to obtain a Charter for Scotland, and subsequently to the Duke of Montrose, who was appointed President in 1845. The result seems to have been, that while the Government were fully made aware that a wrong had been done to the profession in Scotland, they declined to revoke the Charter.

For some years after the Charter was granted to the English body, the Society suspended its examinations; but owing to great dissatisfaction having been expressed by those who took an interest in the welfare of the College and the veterinary profession in Scotland, the Directors for these reasons, and on a petition by the pupils, reconstituted its Board of Veterinary Examiners in 1848. The cause of dissatisfaction is referred to in the account of the examinations for that year.

The Society was for many years afterwards desirous of obtaining a Veterinary Charter for Scotland, not for the institution of a

teaching school, but for the nomination of a council authorised to appoint a board of examiners, and to grant diplomas to all who should have followed the curriculum and passed the examinations to be prescribed from time to time by such council; and resolutions to that effect have been passed at most influential general meetings of the Society. This desire was strengthened by the decease of Mr Dick, and the terms of his will, by which the Society was in some respects disassociated from the College, and the latter came under the superintendence of the Corporation of Edinburgh.

On the 27th of June 1866 the Society adopted a Memorial, praying for the creation and establishment of a Royal Veterinary College in Scotland, with power to confer degrees in veterinary medicine and surgery. This Memorial, signed by the Duke of Buccleuch, the President, was forwarded to Government; but at the general meeting in January 1867 it was reported that hitherto the Society had not been successful, and that a very strong influence had been brought to bear upon the Government, for the purpose of keeping the whole veterinary governing body in London, so that there should be but one veterinary college for the whole of the United Kingdom, with power to confer diplomas on veterinary students.

At the annual examination in April 1867, Lord Provost Chambers, adverting to the subject, said—Working harmoniously with the Highland Society, the medical colleges, and the graduates of the Veterinary College, the Town Council of Edinburgh were now determined to apply to Government for a Veterinary Charter for Scotland. His Lordship further observed that, under the provisions of such a Charter, a species of veterinary university would be created in Scotland; examining boards would be appointed; diplomas and degrees would be granted; the curriculum and general arrangements at the Edinburgh Veterinary College and other teaching institutions improved and extended; and a new and active stimulus thus given to the study of the veterinary art. Endeavours were made several years ago to affiliate this school to the Royal College of Veterinary Surgeons of England, but their endeavours had signally failed. The friends of the College had, however, many years' experience of the value of their own Scottish examinations, so ably conducted under the management of the Highland Society. Such examinations they were determined should be continued, not as formerly under the auspices of the Highland Society alone, but under the authority of a Royal Charter, for which immediate application would be made.

Mr F. N. Menzies, Secretary of the Highland Society, concurred heartily in the observations which had been made by the Lord Provost. The Edinburgh Veterinary College had, he said, proved

one of the most valuable departments of the Society ; continued efforts were, however, still necessary to maintain and extend its efficiency, and nothing was now more essential for its welfare and for the general improvement of the veterinary art than a well-considered Veterinary Charter for Scotland. The Directors of the Society, and indeed the whole body of agriculturists, were now solicitous to obtain at once such a charter.

At the close of the examinations, the Lord Provost said he had alluded the day before to the peculiar position of the College in regard to the granting of a Charter. He trusted that the matter would be adjusted in a manner not only satisfactory to themselves, but also to their friends across the Border. The people of Scotland only wished fair play, and if a Charter was given to a college in England to grant diplomas for the practice of the veterinary art all over the kingdom, they should also have one with similar powers in Scotland. These were the broad catholic grounds on which they put forward their claims, and he was sure their English friends were more generous than to take from this country what it was fairly entitled to. The matter was now under the consideration of Government, and he hoped before next session the Institution in connection with the Highland Society would be able to grant diplomas to all who passed the necessary examinations.

In 1867 a joint application by the Society and the Town Council of Edinburgh for a National Charter for Scotland was forwarded to the Principal Secretary of State for the Home Department, by whom it was referred to the President of the Board of Trade. This application was supported by memorials from the Royal College of Surgeons of Edinburgh, the Royal College of Physicians of Edinburgh, as well as from the Commissioners of Supply of nearly every county in Scotland; and a Memorial praying for such a Charter was signed by upwards of two-thirds of the Veterinary profession in Scotland.

A deputation, consisting of six peers, nearly all the Scotch members of Parliament then in London, the Lord Provost of Edinburgh, a number of the leading veterinarians holding the Society's certificate, besides several other gentlemen, waited, according to appointment, on the Duke of Richmond, the President of the Board of Trade, on the 26th of November, on the subject of a Veterinary Charter for Scotland.

The object of the deputation was fully stated by the Lord Provost on behalf of the Corporation of Edinburgh, and by Mr Campbell Swinton on the part of the Highland Society. The deputation was very much indebted to Lord Colonsay, who explained that on a proper construction of the Charter of the English College, monopoly was not to be inferred. The Duke of Richmond stated that the subject would receive his best con-

sideration ; but he reserved his decision till he heard the case of the Royal College of Veterinary Surgeons, a deputation from which was to wait on him on the 28th November.

That body took steps to oppose the granting of a Charter to Scotland, and with that view lodged a statement with the Board of Trade in opposition to it.

On that statement the Society and the Corporation of Edinburgh, for the information of the Board of Trade, submitted some remarks. On Articles 1 and 2 of the statement by the Royal College, it was observed that the inference intended to be made that that body is possessed of a monopoly cannot be correct. A monopoly cannot be legally inferred, and the Crown cannot be supposed to have bound up its hands for all time and under all circumstances in this matter. It was respectfully submitted that the Crown could not bind itself. The true meaning of the words (which it was inferred were words of style) was that as against all existing bodies, the Royal College of Veterinary Surgeons shall alone have power to confer degrees on persons to be distinguished as veterinary surgeons, so long as it shall please the Crown to continue the privilege. Under No. 3, it was stated that neither the Highland Society nor any other public body in Scotland was a party to obtaining the Charter granted in 1844. Under Nos. 4 and 5, it was mentioned that it was quite true that the Royal College did send down examiners, but so far from no complaint having been made, great dissatisfaction had been expressed with the body of examiners, and so strongly did Professor Dick feel in the matter, that he reverted to the previous system of obtaining certificates from the Society after trial for some years of the examiners from the Royal College. Under No. 6, it was pointed out that the Charter sought was for no school, but for a college to regulate the course of study in all the teaching schools of Scotland, and to grant diplomas to all who should have followed the curriculum to be prescribed from time to time by the governing body. No such inconvenience as was here contemplated has been experienced under the present system, whereby the Highland Society grant certificates, nor under the system whereby the medical schools of London, Edinburgh, and Dublin prescribe their respective curricula and grant degrees. The anticipated impossibility of keeping up the standard of qualification receives no support from the experience of the different medical schools. All experience of educational establishments goes to prove the beneficial effects of wholesome rivalry. Under No. 7, the petitioners were quite prepared to modify any of the details of the proposed Charter, and, should it have been considered desirable by the Board of Trade, to make provisions for a large representation of the veterinary profession and intrust the election of a certain number to the members of the College as incorporated. Under No. 9, the

petitioners held that there were grounds of necessity and expediency for seeking the proposed Charter. The Royal College was virtually an English institution, and had its seat of government in London, and there were many specialities in connection with Scotland which an English college and examiners appointed by it could not be supposed to be so well acquainted with as a governing body resident in Scotland, and their examiners would necessarily be. Under Nos. 10 and 11 the petitioners said Professor Dick's views as to the necessity of a Veterinary College for Scotland were well known and frequently expressed, and the anxiety of the landed proprietors generally had been manifested by memorials in favour of the proposed Charter which had been presented by every county in Scotland, with the exception of two, in which it happened there were not Michaelmas county meetings. Many of the local agricultural societies had also petitioned, and on the whole, with some trifling difference of opinion in details, on the part of one or two bodies, the country was unanimously in favour of the proposal.

At the general meeting in June 1868, after reporting the examinations for session 1867-68, Mr Campbell Swinton of Kimmmerghame said he had to report upon another matter connected with veterinary science, in regard to which he was sorry to say that they had hitherto met with ill success—he referred to the effort which had been made to obtain a Charter for a General Royal Veterinary College in Scotland. The members were aware that, in conjunction with the Lord Provost and Magistrates of Edinburgh, acting as trustees of the Dick College, and also acting in conjunction with other public bodies in that city and elsewhere, and with a large number of the veterinary surgeons in Scotland, they had made an application to Government asking them to institute a Royal Veterinary College, not connected specially with Edinburgh, but to hold the same position which the Veterinary College in England did, and to give diplomas, degrees, and certificates to students attending any veterinary establishment where suitable education was given. He was sorry to say that hitherto their efforts had not been attended with success. The last letter which had been received from the Board of Trade on the subject, which was addressed to their London agent, was dated 15th May, and was as follows :—

“COUNCIL OFFICE, *May 15, 1868.*

“SIR,—I am directed by the Lords of the Council to inform you that their Lordships have had under their consideration the petition lodged by you at this office on behalf of the Highland and Agricultural Society of Scotland, and of the trustees of the late Professor Dick, praying for the grant of a Charter of Incorporation to the Royal Veterinary College of Scotland, and I am to state that their Lordships, after mature deliberation, find themselves unable to recommend Her Majesty to grant the Charter prayed for.—  
I am, &c. (Signed) ARTHUR HELPS.

“John Graham, Esq., 3 Westminster Street.”

That answer evidently proceeded on a misapprehension, because it refused a prayer for a Charter of Incorporation to the Royal Veterinary College in Scotland, while there was no such body in Scotland. They seemed to be confounding the College, the establishment of which they asked for, with the school of veterinary medicine which existed in Edinburgh. He hoped, therefore, they might still hold out some expectation that when that mistake was properly explained their just demands in that matter for Scotland would receive greater consideration from the authorities in England than they had hitherto met with. Probably the Society would be willing to remit the matter to the Directors, knowing as they did what zealous friends they had in their noble President and in members of both Houses of Parliament, who were anxious still to take that matter up and press it on the attention of the Government.

The Duke of Buccleuch said that the letter which had just been read by Mr Swinton showed that there must be some misapprehension of the object of the Society in asking for this Charter. No reason had been assigned for the refusal, and he thought they had therefore a very good right to press the matter still further, and ascertain really what was the objection to granting a charter to a Veterinary College in Scotland. He knew, from what he heard last year, that there was an excessive amount of jealousy in certain quarters against the establishment of a Veterinary College in Scotland. They had an idea that a Veterinary College in England was the only one that ought to be supported, and that every person must go to London to get his diploma. He would like to know how they would have been if there had been no Royal College of Surgeons or Physicians in Scotland. He was not one who felt at all inclined to yield to pressure of that sort; and when he went to London he would make it his duty to endeavour to ascertain the grounds upon which this refusal was based, and, if possible, to procure the publication of any documents upon the subject, by moving for all the correspondence which had taken place between the Board of Trade and that Society, and all other public bodies upon the subject. He thought they should still press it strongly upon the attention of the Board of Trade.

The matter was remitted to the Directors to take steps for bringing the matter anew before the consideration of the Board of Trade.

Ten years later the Society again petitioned Government for a National Charter for Scotland. In this petition it was stated that Mr Hallen, staff veterinary surgeon of Her Majesty's Bombay Army, held no other certificate than that of the Highland Society; and that Mr Dollar, veterinary surgeon to His Royal Highness the Prince of Wales, as well as other highly distinguished veterinarians, were in the same position.



At the general meeting of the Society in June 1876, it was reported that on the 24th May a deputation from it had waited on the Lord President at the Privy Council Office, for the purpose of asking that a Charter should be granted to the Society, by which their powers of granting certificates might be extended to that of diplomas. The Earl of Dalkeith introduced the deputation, and after various remarks by several members, the Duke of Richmond said the Memorial should receive his earnest attention.

The result of that application was reported to the general meeting in January 1877, by Captain Tod of Howden intimating that the prayer of the Society's petition had been refused. The letter from the Privy Council Office is in the following terms:—

“PRIVY COUNCIL OFFICE, 12th December 1876.

“MY LORD,—I am directed by the Lord President of the Council to inform you that the Lords of the Council have given their careful consideration to the petition of the Highland and Agricultural Society of Scotland, praying for the grant of supplemental Charter; and I am instructed to state that their Lordships have felt it their duty to advise Her Majesty not to comply with the prayer of the petitioners.—I have the honour to be, my Lord, your Lordship's obedient servant, (Signed) C. L. PEEL.

“The Earl of Strathmore, Vice-President,  
Highland and Agricultural Society of Scotland.”

On the Duke of Buccleuch being informed at the same meeting that no reasons had been given for the unfavourable decision, His Grace said it was perhaps nothing more than jealousy on the part of the Veterinary College in London that anything better than itself should be tolerated.

It has since come to the knowledge of the Society that, as on former occasions, the Society's petition was opposed by the Royal College of Veterinary Surgeons; and in the report by the Council laid before their annual meeting on the 7th May 1877, and published in the “*Veterinarian*” for June 1877, a new light was thrown on the nature and extent of that opposition. In the report referred to there is a letter addressed by Major-General Sir Frederick Fitzwygram to the Duke of Richmond and Gordon, President of the Privy Council, from which it appears that the Council of the Royal College addressed circulars to (1) those members holding the certificate of the Society, in addition to that of the diploma of the Royal College; (2) those who were educated in Scottish schools, but who hold only the diploma of the Royal College; and (3) those practising in Scotland. The result, as given in Sir Frederick's letter, was that under the second head all objected to the Society's application, while out of 319 replies received under the first and third heads, only three persons were in favour of the Society's application. Among those who objected were the Principals of the three Scottish schools.

The Society, believing that the veterinary profession is opposed to a National Charter being granted for the profession in Scotland, have just signed articles of agreement with the Royal College of Veterinary Surgeons (see Appendix B, page 15) with the view of the admission of holders of the Society's Veterinary Certificate as members of the Royal College, on payment of certain fees, without being required to submit to any further examination ; also for the purpose of terminating the examinations heretofore held by the Society. Whether the suspension of the Society's examinations may turn out disadvantageous to Scotland and the veterinary profession, remains to be proved ; but under the circumstances, the Society considered it impossible to continue to grant certificates.

The reasons which induced the Highland Society to re-constitute its Board of Examiners in 1848 were thus referred to on a subsequent occasion by the late Dr George Wilson, Professor of Technology in the University of Edinburgh :—"In the year he (Dr George Wilson) joined the Edinburgh Veterinary College, the Highland Society had just ceased to grant certificates, and a Board was sent down from London to examine the students. He was present at the first examination by that Board, and he would say this, that the examination was carried on in the most offensive way in every respect, so that any temptation which might formerly exist on the part of Professor Dick, and the friends of the Veterinary College, to give in to the London people, was certainly removed by the tone and style of treatment he received from the parties who came down from London. Far be it from him to say that that was an inseparable concomitant of London Boards, but so it was in this case.' The truth was, that a march was stolen on the Highland Society, and after getting the new Charter, no proper appreciation was shown by the London Boards, either of the claims of this great Society, or of the claims of the Edinburgh Veterinary College, or of Professor Dick. In the new arrangements that were made, that College was practically ignored, or treated as beginning from the time the English arrangements commenced, and was simply allowed to come in as a second-rate provincial College, under the control of the London Board."

In closing this narrative of the Veterinary Department of the Highland Society, it only remains to be observed that, by the decision of the Privy Council, the monopoly of granting veterinary diplomas for all parts of the United Kingdom remains in the hands of the Royal College of Veterinary Surgeons ; and that the Colleges in Scotland, which have been so productive of good in the past, must henceforth be under the authority of an English Council.

## ON CONTINUOUS CORN-GROWING AT PAXTON, BERWICKSHIRE.

By GEORGE MUIRHEAD, Estate Agent, Paxton, Berwick-on-Tweed.

[*Premium—The Minor Gold Medal.*]

SOME years ago Mr Milne Home of Milne Graden commenced a series of agricultural field experiments on the home farm at Paxton, in the parish of Hutton, in this county. The object of these experiments was to try whether the system of continuous corn growing, so successfully pursued at Rothamsted, in Hertfordshire, by the celebrated Mr Lawes, and by Mr Prout of Sawbridgeworth, in the same county, would succeed in Berwickshire. The experiments were begun by Mr Milne Home, are still continued by Captain Milne Home of Wedderburn, M.P., and have been carried on under my personal supervision.

Climate and soil have of course very great influence on the results of agricultural field experiments such as those, and therefore I may remark that the climate on the home farm at Paxton is somewhat cold and wet, and that the season in spring is considerably later than in the earlier parts of this county. The height above the level of the sea is about 130 feet, and the average rainfall about 36 inches.

The soil upon which the experiments have been made may be described as a heavy brown tenacious loam, about 10 inches in depth, resting on a retentive subsoil of yellowish sandy clay. It is drained  $3\frac{1}{2}$  feet deep, at intervals of 30 feet. Its cultivation has been carried on in the usual way followed in the neighbourhood, with the exception of being once dug by the steam plough 10 inches deep in the winter of 1870. Two small fields, lying contiguous to each other, and extending to 4 and 7 acres respectively, were selected for the experiments. For the last nine years they have been cropped in the manner and with the results given in the table on the following page.

I have not given the rent of the land, taxes, working expenses, and cost of seed per acre, in the table, as these are the same from year to year, and therefore do not affect the results of the experiments. I may mention, however, that the quantity of seed drilled in was  $2\frac{1}{2}$  bushels per acre.

It will be observed from the following table that the value of the experimental barley per acre, in 1877, was considerably lower than in the two previous years, while the value of the manure applied was higher, but that may be accounted for by the very unfavourable character of that season for the barley crop generally. I found that ordinary rotation barley grown that year upon another field of the home farm, and on better soil, yielded very little more grain per acre than the experimental barley on the

4-acre field. The former looked a bulkier crop on the ground than the latter, but the yield was not in keeping with its appearance while growing. Ordinary rotation barley, in this neighbourhood, was a very small crop in 1877,—in one instance so small a return was got as 2 quarters 2 bushels per acre, although the land had been well cultivated, and was in good order.

FOUR-ACRE FIELD.						
Year.	Kind of Crop.	Date of sowing.	Kind of manure and quantity applied per acre.	Value of Manure applied per acre.	Value of crop per acre including straw.	Remarks.
1870	{ Barley after turnips }	...	{ Portion of turnips eaten on ground by sheep. }	£ s. d. ...	£ s. d. 9 17 6	{ Thrashed at Home Farm }
1871	Hay	...	2 cwt. nitrate of soda.	1 12 0	11 13 4	{ Used at do. }
1872	Oats	10th March	1½ cwt. guano.	0 19 3	9 0 0	{ Thrashed at do. }
1873	Beans	22d Feb.	2 cwt. dissolved bones.	0 17 8	14 10 0	{ do. do. }
1874	Wheat	24th Feb.	20 tons farm-yard dung.	5 0 0	10 0 0	{ do. do. }
1875	Barley	30th March	{ 1½ cwt. nitrate of soda, and 1½ cwt. superphosphate of lime. }	1 13 0	9 10 0	{ Sold growing on ground, by public roup. }
1876	Barley	2d May	{ 1½ cwt. nitrate of soda, and 1½ cwt. superphosphate of lime. }	1 10 0	9 10 0	{ do. do. }
1877	Barley	16th April	{ 2½ cwt. nitrate of soda and 2 cwt. superphosphate of lime. }	2 6 2	7 5 8	{ Thrashed at Home Farm. }
1878	Barley	10th April	{ 4 cwt. nitrate of soda, and 4 cwt. of superphosphate of lime. }	4 16 4	11 10 9	{ do. do. }
SEVEN-ACRE FIELD.						
1870	Turnips	...	{ 14 tons farm-yard dung and 3 cwt. guano. }	6 9 0	6 0 0	A very poor crop.
1871	Barley	...	{ Turnips eaten on ground by sheep }	...	8 11 8	{ Thrashed at Home Farm. }
1872	Hay	...	2 cwt. nitrate of soda.	1 12 0	9 6 8	{ Used at do. }
1873	Oats	28th March	No manure.	...	7 15 0	{ Thrashed at do. }
1874	Beans	20th March	2 cwt. dissolved bones.	0 13 4	12 0 0	{ do. do. }
1875	Barley	23d March	{ 1½ cwt. nitrate of soda, and 1½ cwt. superphosphate of lime. }	1 13 0	10 3 4	{ Sold growing on ground, by public roup. }
1876	Barley	3d May	{ 1½ cwt. nitrate of soda, and 1 cwt. superphosphate of lime. }	1 10 10	8 17 1	{ do. do. }
1877	Barley	24th March	{ 2½ cwt. nitrate of soda, and 2 cwt. superphosphate of lime. }	2 6 2	7 5 0	{ Thrashed at Home Farm. }

As the 7-acre field was required in 1878 for turnips, it was arranged that the experimental barley should for the future be continued on the 4-acre field only.

Rather more manure was applied to the 4-acre field last year than was intended, owing to it being distributed by the hand, and the barley on that account was such a heavy crop that it was all laid flat to the ground by the heavy rains which occurred before harvest, and a considerable portion of the grain did not ripen properly. The crop was reaped about the middle of September, and stacked in the 4-acre field, and thrashed by a

portable thrashing mill about the beginning of November. The grain, as usual, was sold in Berwick market, and the straw to various parties in the neighbourhood. The price received for the straw was 5d. per stone of 22 lbs.

The fields have kept wonderfully clean under the continuous barley growing, but last year there was a quantity of annual weeds, such as sow thistles, amongst the corn, which had to be removed about the latter end of the summer.

The continuous corn growing experiments on the home farm at Paxton have not been carried on long enough to enable me to give any decided opinion as to their probable success in the future, but I am inclined to think that they will succeed fairly well. My opinion at present regarding the continuous corn growing system on a large scale, is that it may answer well under favourable conditions, the chief of which are an early and dry climate, to allow the land to be kept free of weeds, suitable soil, and steam power for cultivating the land. I think, however, that it might with advantage be adopted in a modified way in this county, in cases where the land is too heavy for turnips.

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## ON THE CAUSE OF RINGSHAKE IN TREES.

By THOMAS WILKIE, Forester, Ardkinglas, Inveraray.

[*Premium—Five Sovereigns.*]

WHEN injury, disease, or death is produced either in the animal or vegetable world, it is incumbent upon all interested parties diligently to inquire as to the cause, which, if once ascertained, the same or some other student may find an antidote, and thus produce a public good.

Disease and permanent injury are often caused to man, animals, and plants by atmospheric influences, while the want of sufficient drainage, or inattention to the same, also produce deleterious effects. Contact with diseased bodies in many cases is highly injurious, and in some produces not only permanent injury, but death. Medical men, sanitary inspectors, mining engineers, agriculturists, horticulturists, and arboriculturists have all to contend, more or less, with these in the course of their professional lives. But while, in these days of enterprise, research, speculation, and competition, each advances in the knowledge of his own profession, we may naturally expect fresh, if not grand, discoveries yet to be made; some of

which may enrich the discoverer, and cause his name to be honoured not only by the present, but future generations.

It is not necessary that I should definitely state in what particular direction the student of arboriculture should direct his chief attention, nor—as this is a wide field—can it be doubted that much yet remains to be learned even by the wisest. What arboriculturist does not find himself baffled in accurately ascertaining the cause of premature decay, or it may be of permanent injury, produced upon some of his favourite specimens? Noxious gases, putrid water, or other substances, such as fungoids, &c., and insects *ad infinitum*, all have injurious effects upon plant life. The arboriculturist's profession is an interesting one, leading him to act not only for the supply and benefit of the present, but for the future generation, and as a wise economist, interested as he is in the selection and gathering of seeds—sowing, cultivating, planting, and rearing of the same—the national requirements demand more than a transient consideration from him. The crop he plants he scarce ever sees ready for cutting down in his own brief day. But experience having taught him that some kinds of trees produce a more remunerative crop than others, supplying a most useful, and at all times a necessary class of timber for national requirements, it behoves him carefully to ascertain on what variety of soil, on what exposures, and at what altitudes he has generally seen them growing most luxuriantly. He may have seen some handsome specimens of a majority of the recent as well as the more remotely introduced foreign plants. But his experience is calculated to lead him to form a more correct idea of the suitableness of the various soils which are best adapted for the growth of those species indigenous or introduced into his locality. He may be ignorant of scientific theories, but have a true practical experience, which, in many cases, is far better than theory. And his ambition ought to be to grow the most remunerative crop and greatest possible bulk of sound useful timber in a given period of time; thus endeavouring to advance the knowledge of his profession, along with others of his brethren, while studying to grow a profitable crop for his employer, and that which will supply the requirements of his country. The fact that unsound timber is found in our forests is indisputable, and it is our object in this paper to inquire as to the cause or causes of ringshake. I have no hesitation in saying that any authors whose writings upon this subject I have had the opportunity of reading do not ascribe the condition to what I believe to be the true cause. Those authors ascribe the cause of ringshake to the soil upon which the tree grows. I would as soon believe that some noxious gas floating in the air, or a shower of noxious vapour falling upon it, could produce it, or that no African could be kept alive upon

Scottish food—otherwise his frame would become a complete wreck—as believe that the soil is the only cause. The antiquity of this belief carries no weight with it, and the cause must be sought for elsewhere. Certainly, if any particular soil is better adapted for the growth of certain trees than others, none can be more suitable than that on which they are found growing naturally unaided by the hand of man. But it does not follow that all trees, even though planted on such soil, will be exempt from ringshake. My experience, gathered in various Scotch counties and on various estates, has led me to the conclusion that ringshake is often attributable to the subsoil; in other instances, to the form of the tops of the trees on certain exposures; while, in not a few, it may be attributed to both the above causes; and in some cases, I believe, continued severe frosts may be the cause. The following facts have convinced me that ringshake is not attributable to the soil only; and by asking and answering a series of queries, I hope to make my views intelligible to others. In Perthshire, I am asked to take to the sawmill a considerable quantity of peeled oak timber and have it manufactured. I find it has been growing on various classes of soil, resting upon different kinds of subsoil. The woodlands have a southern exposure at an elevation of 800 feet above the sea, on either side of which a crop of oak copse is growing; the ground is somewhat irregular,—some knolls 60 or 80 feet higher than the general level of the ground. I find this oak timber I am requested to manufacture is the oak standard trees which have been cut down along with the annual cutting of copse grown upon the same ground; they are 70 years of age, more or less. I carefully examine them, and I find numbers of them have grown very straight, and seem to have had very regularly formed tops, others quite the reverse, and have had a number of heavy limbs. I am asked, Do you expect they will turn out a given number of cart spokes? I answer, According to the cubical contents, they should; but a good many are not sound, and I am therefore afraid they will not. We are often caused considerable loss by ringshake amongst our oaks. What do you think is the cause? Some authors ascribe the cause to the soil only, but this I have never been thoroughly able to prove. I do not believe that the soil is the only cause; and suppose we get tools and examine the various classes of soil on which these oaks have been growing. Here is a sound oak; let us try and find out what class of soil it has grown upon. Black loamy soil 18 inches deep, resting upon porous gravel. Now, try round this stool; this oak is much ringshaken we find. Sandy loam 20 inches deep resting upon a very hard gravelly pan. Now, then, do you believe that the soil here has anything to do with the cause of ringshake? It may

have a share. How do you think so? Because you observe a considerable quantity of surface water here, and our pits are covered in the bottom with it already; and in this case severe frosts, if of long continuance, may have penetrated to the very centre of the tree, and if a strong gale of wind should have occurred at the same time, I have no doubt the wind acting upon it caused the shakes we now see at the butt end. Then you do not attribute the result so much to the soil as to the wet state of the ground, a severe frost, and high winds? No, I do not; and from the appearance of the tree, I fancy it has had a few heavy limbs on it, which would catch a considerable force of the wind, producing a bad twist upon the stem, and this occurring when the tree was very rigid, was the cause, without doubt. Now, then, suppose we search for more ringshaken trees, and see if your argument holds good in every case. I do not mean to assert that it does so, because, I believe, ringshake is not produced in every case from the same cause. Here is one, then, growing upon bare, rocky soil, with not more than three inches of light mossy loam on the top of the rock; being on the top of this knoll, water could have little, if any, effect here. The rock seems very smooth on some parts of it, but must have some crevices in which the roots have got a hold, otherwise the tree would have been blown down. There must be some crevices, as you say. Here is a large root firmly fixed to the rock, and there is the same on the opposite or west side—the roots are mostly small on the north and south sides. The top and the roots of the trees have both to be taken into account here; why so? Because you can easily perceive that heavy limbs have been growing upon this tree; the stem, though pretty long, is not very thick for its age, and the heavy limbs being acted upon by the wind, would cause a severe stress upon these main roots growing on the east and west sides of the root, and you see quite plainly that the largest splits in the trunk are direct across the stem—or north and south in the stool; this is the place where the action of the wind would rest most severely. Why do you think so? Because the rock is much sloped, and the roots on the north and south sides having very little hold of it, the resistive stress of the wind would fall to be borne by the principal ones on the east and west sides; consequently, the returning action of the tree would have the tendency to produce this large split in the centre of the trunk. This action or stress is borne by a ship at sea in time of storm in a similar manner, only in the case of a ship the stress is caused by the waves underneath it, instead of the wind around the tree. In what way does the stress rest upon a ship at sea in stormy weather? You are aware that the space between crest and crest of the waves is generally about 60 feet, and



consequently, if a vessel is longer than that, her fore and after ends will strike at one time upon the crest of these waves, hence the stress is thrown upon her middle, both on her deck beams and keel, and all the difference between that on the tree and vessel is simply this that I have already mentioned, the stress on the tree is caused from above and that on the vessel from below. Then, in this instance, the frost would have nothing to do with ringshake? It could not have so much in this instance as in the last. However, snow melting on the tree would run down the stem, and if severe frost were setting in, in this case it might, as in the last, have something to do with it, but I do not believe it had a great deal, seeing the ground is perfectly dry all round this stool. Why are your men cutting down this hedgerow timber? See how they are affected. Do you believe any of them are ringshaken? Yes, I believe that Spanish chestnut and the elm near the far end are badly affected. How do you think so? You see from their appearance they have been considerably crushed during a period of their growth, and are both 10 feet taller than the others, and have heavy limbs on two sides, growing at right angles from the line in which they are placed. Examine the soil here too; it is about two feet deep, of a black loamy nature resting upon a loose gravelly subsoil, and as we proceed we find it of an almost uniform nature and depth, while the subsoil is also the same. The Spanish chestnut was found to be seriously ringshaken, and the elm at the far end of the row was quite as bad. Now, to what do you ascribe this result? We have carefully examined both the soil and subsoil, found both of a uniform character along the whole line, and with the exception of these two ringshaken trees being 10 feet taller, and having badly formed tops, nothing was noticeable or peculiar about them more than the other elms or oaks while growing in their position. The fact of their being 10 feet taller than the others in the line would not render them more liable to be ringshaken. But the fact of their tops being badly formed is of itself a sufficient reason why we should attribute the ringshaking to them alone. You have formerly advanced this idea, how do you make that out? Perhaps you may never have seen a fir tree badly ringshaken. Very seldom. Well, I cut down a large silver fir tree about twelve months ago, growing in a moderately sheltered situation; its top had been cut or broken off by some means at a distance of about 8 feet from the ground, the consequence was that two large limbs grew out from the stem right opposite each other, and when I cut down the tree I found these about as high as the main stem, which had grown straight, notwithstanding the injury formerly done to its top shoot. One of these limbs contained about 120, and the other about 70 cubic feet of

timber. These growing with a gradual bend almost semi-circular, and then growing quite straight, you may fancy, loaded as they were with numerous branches, what a force of wind they would catch. This tree when cut down was found to be sorely ringshaken for at least a third of its entire height, and while being sawn up the planks fell into pieces. The soil and subsoil on which it grew was exactly similar to those on which these have been growing; and those limbs on the chestnut and elm trees, "though not so proportionally heavy as those growing upon the silver fir I have referred to, yet, I believe, being more openly exposed than the silver fir," is undoubtedly the cause of ringshaking in them. Then what effect do you believe the frost to have had upon these trees? In regard to the silver fir, it would have very little, as it was clothed with branches almost to the ground, and these would prevent frost from affecting it as much as a deciduous tree. The ground is comparatively dry round the places where the chestnut and elm trees have been growing, but should it have occurred frequently as well as severely during the time these trees were growing there, it may have helped to produce ringshake in them. Now, let us take these men along with us to this mixed plantation growing upon the face of the hill. We shall find all kinds of soils and subsoils there. Here is another Spanish chestnut, with its ligneous tissues arranged somewhat spirally. Cut it down, and see how it is affected. You observe its top is formed very symmetrically, and has no heavy limbs of consequence. The soil is of a mossy loam 6 inches deep, resting upon a rock of gray sandstone, somewhat raised above the line of the others growing round it. We find this one sound. How could you account for the soundness of this one? Its top is symmetrically formed. The north-east and south-west winds are most prevalent. Now this heavy silver fir is much higher, and well furnished with branches, which protect it from the north-east winds, and, though near the margin of the plantation, those well-furnished Scotch firs protect it from the south-west winds. I believe its roots are nearly equally distributed all round like those of its branches—hence its soundness.

Here is an elm growing rather isolated, all covered with lichen, and showing little signs of vitality. Cut it down. It is growing on mossy loam 10 inches deep resting upon hard gravelly till subsoil. Like the majority of our elms, its habit of growth is somewhat straggling, and it has five heavy limbs growing out from the stem at various distances from the ground. When cut, you see it is much ringshaken. Now, here we have a subsoil quite different from any we have hitherto come upon; but this tree's habit of growth is somewhat similar to that of the Spanish chestnut and elm we found ringshaken in the hedgerow. What is the cause in this case? The cause is

chiefly attributable to its badly formed top; but the ground being of a spongy nature, would retain a large amount of moisture. The tree was growing isolated from any evergreen conifer, and frost would act powerfully on it, hence the action of heavy winds on the tree, when frozen it may be to its very centre during several stages of its growth, would produce the effects now seen. As a general rule, I find those elms which are what is often termed well-hearted trees worse than those which have less redwood in them. Probably this may be attributable to the fact that well-hearted trees are more rigid. I noticed this particularly a few years ago when thinning out those elms growing along the banks of the Blackburn; and this was apparent too when I could discern no difference in the class of soil or subsoil, or in the form of their tops, and if attributable to the formation of the roots or their distribution, I do not understand how it could be explained, seeing the majority of the well-hearted trees were ringshaken, and none of the others. Why not stop planting the former, and plant only the latter class? The former are the most valuable as well as the most useful, therefore your proposition, if adopted, would cause a scarcity of valuable elm. But this tree we have cut down is pumped in the centre as well as ringshaken. The soil in this case has nothing to do with that; it is the hard pan bottom. The friction caused by the wind has injured some of its roots that were resting on the hard pan, and produced decay in them, which has been communicated by these wasting roots to the stem.

Try an oak now. Here is one at full maturity, with a straight clean stem, and no heavy branches. Its ligneous tissues do not seem spirally arranged. It is growing upon mossy loam 14 inches deep, and resting upon a gravelly pan too. We find it quite sound. Though growing upon the side of a knoll, it is pretty well sheltered by Scotch and silver firs growing round it. The ground is perfectly dry. Neither wind nor frost has produced any deleterious effects here.

Try this one on the margin of the plantation. One of its heavy limbs is already broken. It is quite evident that thinning has been long delayed on the margin, as this oak has very few branches on either side. Save on the outside, the stem is inclined outward, and the heaviest limb on the outside is broken off. We find it growing on black loamy soil a foot deep, resting upon a gravelly till subsoil. When cut down, it is seen to be ringshaken. What is the cause here? Thinning has been too long neglected, and this heavy limb now broken off, catching the wind, has twisted the tree, so as to produce or cause these various rents we now see. Would frost have no injurious effects upon this tree? I do not think so. Seeing a Scotch fir

has grown on one side, and a spruce fir on the opposite side of it, the road on the outside is not so high as the ground where this oak was growing, and having a good declivity all round, water would not lodge about its roots, and growing on the sunny side of the plantation, snow would not lodge much upon it, and I attribute the cause to the action produced upon the stem by heavy winds striking upon those heavy limbs overhanging the road.

In 1862 I observed a row of oak and elm trees growing along the side of a public road, with tops and trunks formed exactly the same as the oak last referred to. The reason why they were thus formed was on account of a close plantation growing on the opposite side of the road, and the row being very closely grown for a long time before being thinned out. I observed splits in the majority of them, averaging 2 feet in length, and into which I could in many parts insert the blade of my pruning knife. The sap was oozing out of these splits during the whole season of their growth a few years later. I saw several of them cut down, and they were badly ringshaken. Being on the ridge of a side cutting, the ground was perfectly dry. In this case I also attribute the cause of ringshaking to mismanagement, or want of thinning and neglecting to foreshorten the heavy branches in time.

To further enter into details about individual trees, the respective soils on which they grow, and the results, whether sound or unsound, would, I consider, be superfluous. I therefore advance these statements as the result of careful observation. And if asked if it is possible to grow elm, oak, or chestnut trees to full maturity and free from ringshake upon all the various classes of soil and subsoil I have mentioned, my answer would be, impossible. Seeing we cannot be expected to accurately ascertain the nature of the subsoil in every case, and seeing the subsoil has far more to do with ringshake than the soil, our difficulty lies there; but I believe if the Pollard system were more uniformly adopted, we could thus produce a crop of far sounder timber from our hardwood plantations, seeing it is quite practicable in the case of the elm, oak, ash, or plane trees. I have not had experience in pollarding of Spanish or other classes of chestnuts, but all the others I have frequently seen very successfully done. And should pollarding not be considered advisable, then let disbudding and foreshortening be particularly attended to during at least the first forty years of the tree's growth, while thinning, so as to give plenty of room to allow the branches to spread, is by no means neglected; during the same period, where the trees come away well, and where they are more exposed and do not make such vigorous growth, the duties I have mentioned must be attended to for a longer period. Some

arboriculturists are opposed to thinning a plantation, while others deem it highly advisable, and absolutely necessary, for the ultimate benefit of the plantation. I consider it is the best treatment we can give a hardwood plantation, to give plenty of room, and should any branch have a tendency to grow to undue proportions let it be foreshortened at once, otherwise the plantation will suffer from the causes I have enumerated, and ringshake be the result.

Thus I have found damp ground resting upon porous gravel producing ringshaken timber,—rocky subsoils, irrespective of surface soil, gravelly pan subsoils, no less than rich heavy deep ground, producing the same. The management of the trees having in a majority of cases more or less to do with it; and in many cases which have come under my own observation neither soil nor the form of the tree had anything to do with it, and did not cause ringshake, the subsoil causing it alone, the nature or form of which prevented or hindered the roots from getting equally distributed round the tree, in some cases only a few main roots supporting the tree. And though never able thoroughly to convince myself, my opinion is that trees whose ligneous tissues are arranged spirally are more frequently ringshaken than those of ordinary form. Felling hardwood trees during severe frost has a tendency to produce ringshake, as well as felling them among rocks or rocky ground.

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#### EXPERIMENTAL STATIONS.—PROGRESS OF EXPERIMENTS.

By DR ANDREW P. AITKEN, Chemist to the Society.

OWING to the extreme severity of the past winter, and to the unfortunate circumstance that the long frost set in before it was expedient to lift the crops upon the Society's experimental stations, it is impossible at this time to give a complete and detailed report of the first season's experiments. Part of the crop is still under snow, and the analytical investigations connected with the experiments are only in their first stages of progress. As, however, there may exist a desire on the part of many interested in those experiments to know what has been done, a few remarks, introductory to the general scheme of experiments, and supplementary to what is to be found recorded in the "Proceedings" (vol. x. Appendix A. 11, 19; vol. xi. Appendix A, 14, 28), may be found worthy of perusal. The object which the Society has in instituting these experiments is to answer some of the more pressing questions which are being asked by farmers regarding the various forms of manures. Manures are esteemed, and even valued commercially, according as they contain ingredients in certain modes of combination, though it is by no means

certain that some of these add more than others to the real value of the manure or the permanent improvement of the land. For example, phosphatic manures, which have been partly dissolved with sulphuric acid, are found usually to have the immediate effect of improving the crop to which they are applied; accordingly a higher price is given for dissolved phosphates than for undissolved, and if one were to limit his attention to the crop immediately succeeding the application of the dissolved phosphate, its superiority over crops which had received undissolved phosphate would make it appear that the former was much better value than the latter. But, in order to arrive at a true estimate of the value of any manure, we must look to its remote as well as to its immediate action.

This is a matter which in ordinary cultivation is very apt to be lost sight of; for farmers, who are farming for profit, necessarily vary the manurial treatment of their land with the kind of crop, with the season, and with the prices of the various manures in the market. They cannot afford to experiment on the large scale, lest failure should be the result, nor on the small scale, as that interferes too much with the more important working of the farm, and demands an amount of care entirely disproportionate to the profit accruing from it, and, moreover, also requires an amount of knowledge and scientific accuracy which only those specially trained have at their command. The result is that lands are manured in such a complex manner that the specific action of the various kinds of manure cannot be estimated, or if manured in a simple manner, there are wanting the means of comparing such lands with similar land which has been differently treated.

It is not surprising, therefore, that a good deal of misconception should prevail regarding the real value of the many kinds of manure which are now in common use among our farmers, and that large sums of money should be spent annually by farmers in the purchase of some kinds of manure which might have been more profitably spent upon others. The amount of money now spent on manure is so enormous that any knowledge which will conduce to their more profitable employment will be a real boon to farmers and manufacturers. To supply some reliable information of that kind is the main object for which the present series of experiments at Harelaw and Pumphreston were instituted, and the means which have been adopted towards that end are such as appear to those intrusted with the inquiry to be the best which the funds at their disposal enable them to employ.

In carrying out a series of agricultural experiments, there are many difficulties to be encountered, regarding some of which a few remarks should be made, since the value of an inquiry

depends on the manner in which these have been met. They are of two kinds,—those which by the exercise of skill, accuracy and watchful care on the part of the experimenter may be avoided or overcome, and those which lie beyond the control of the most skilful and experienced. Chief among the latter are diversity of soil, inequality of climate, and uncertainty of weather.

The diversity of soil is a matter which usually does not receive the attention which its importance demands, and it too often happens that experimenters engaged in observing the specific action of manures attribute to the manures themselves effects which are due in great measure to the peculiar character of the soils on which they are tried. The varieties of soil which are often met with in a field of even a few acres are such as to materially affect the operation of manures, and to occasion differences in the crop which would not have occurred had the soil been everywhere uniform. Even where a field is uniform and well suited in that respect for an experimental station, the difference between its soil and that of other parts of the country, even in the neighbourhood, may be so great that the specific action of certain manures applied to it may be very different from that applied elsewhere. This is a circumstance which should warn experimenters in drawing inferences from the results of their experiments not to be too dogmatic, and to mistake for a general law that which may, after all, have a very limited application. It is not uncommon to hear a special form of manure lauded by one experimenter as the one best suited for a certain crop, and stigmatised by another as being comparatively useless. Some express the opinion that sulphuric acid in any form is prejudicial, and others that it is the ingredient in a superphosphate which is most efficacious. Some declare that phosphates of mineral origin are of small value compared with that derived from bones, and care is taken by manufacturers, who sell bone phosphates only, to let it be known that their manure is of purely animal origin. Others assert that to attribute to animal phosphates an efficacy superior to that of mineral phosphates is an entire mistake. It was long accepted as a fact that mineral phosphates, unless dissolved by acid, were unable to be assimilated by plants; and yet experiments are produced to show that crops are able to thrive on them in the undissolved state as well as in the other.

Conflicting opinions such as these are not necessarily due to inaccurate observation or carelessness on the part of the experimenter, but more frequently to the inevitable contingencies affecting all field experiments, and first among these is the various nature of the soils in which the experiments have been tried. To meet that difficulty as far as possible, it would be necessary to perform the same experiments on a variety of soils, and to investigate

each soil as carefully and minutely as the present state of our knowledge regarding the constitution and mutual action of the various ingredients therein permits. It is a laborious and difficult task, and it must be confessed that we are as yet far from possessing a knowledge of the numerous and complex reactions which go on in soils, or a satisfactory means of arriving at a just estimate of the effect of their various ingredients upon plant life. But a series of experiments upon a variety of soils would do much to advance our knowledge in that direction. It would be a great advantage to agriculture, and would immensely enhance the value of the experiments being carried on at the Society's station, if farmers in different parts of the country, who have time and aptitude for that kind of work, would repeat upon their own lands any of the sets of experiments described in the accompanying scheme. I would be glad to give to those who would do so any aid in my power. The value of the information which would be derived would amply repay the trouble, and would come to the assistance of the Society's experiments in that direction in which they are necessarily defective.

The differences due to climate are to be contended with in a similar way, and those which arise from the accidental circumstances of weather may be diminished by continuing the experiments during a long period of years. Experiments carefully conducted gain value year by year, and a soil which for a series of years has been treated accurately with a manure becomes a kind of pedigree land which is invaluable for experiment.

The Highland and Agricultural Society have been fortunate in securing for their two stations pieces of land which are very different in their character and origin, and which are fairly representative of a large part of the arable land of the Lothians. That of Harelaw (Longniddry) is a deep loam overlying limestone, which has had a considerable effect in giving a character to the soil. It is near the sea, exposed on all sides, having a fine natural drainage, and is one of the earliest districts in Scotland. The station at Pumpherston overlies the carboniferous formation, is a thin boulder clay, situated upwards of 300 feet above the sea-level, and is in a colder, damper, later district than the other. Here, then, the soils and climatic conditions are very different, and these will no doubt have a marked effect on the manures and on the crops.

The extent of ground which should be used for comparative experiments is a question regarding which there are great differences of opinion. In the opinion of some, experimental plots should be as small as possible, without being too small; and the  $\frac{1}{12}$ th part of an acre has been selected by them as being the most convenient. It is our opinion, however, that such plots should be as large as possible, without being too large, and  $\frac{1}{4}$



acre is the size which has been adopted as possessing the greatest advantages. There are few advantages gained by the use of small plots that cannot practically be attained on rood-plots, and there are some special reasons why the latter are to be preferred. Chief among these is the possibility of conducting the experiments upon an agricultural scale without interfering with the ordinary methods of farming. Whether this makes any very essential difference to the success of experiments which are not of a mechanical, manipulative kind, is difficult to say. Spade culture is said to be more favourable to the growth of some crops, such as clover and leguminous plants, than plough cultivation, and this may probably be due to the deeper disturbance and more thorough mixing of the soil; but whether this is so or not, it is certain that farmers are somewhat sceptical of results which have not been obtained by ordinary methods of cultivation. The plots on the Society's stations are all nearly 400 feet long and  $28\frac{1}{2}$  feet broad, and, as will be seen from the accompanying diagrams, are so arranged as to give a clear run for the plough of about 800 feet. The size of an experimental station that is all under one crop should not be so large as to prevent its being sown in one day, for a difference of a day or two in the time of sowing has a marked effect on the crop. This has been very clearly brought out at both stations during the past season, where, from circumstances which will be avoided hereafter, the sowing at Harelaw was not completed in one day, and the occurrence of wet weather prevented its being resumed for nearly a fortnight. The consequence is that the plots first sown took the lead of the other plots, and kept it to the end. An objection has been made to large plots that their size is such as to prevent the employment of a sufficient number of duplicates. This objection vanishes when we consider that each plot is capable of being divided up into twenty-eight plots—each the  $\frac{1}{28}$ th of an acre; so that each rood-plot really yields a crop which would have been reckoned from the average of twenty-eight such small plots, though the probability is that any one of these would not have produced a crop exactly the twenty-eighth part of the rood-crop. Even in a well-selected field, the varieties of soil which may occur in the space of one rood is surprising. The station at Pumpherston affords striking evidence of this. During the autumn there was scarcely a plot where a practical eye could not detect differences in the appearance of the turnip crop which seemed to be due to that cause. In some cases this has occurred to such an extent as to render it questionable whether certain plots are capable of being used for comparative experiments. To enable an estimate to be made of the various grades of fertility of the different parts of a field intended for experiment, it would be advisable to sow it for one or two

seasons previously under the same conditions throughout, having mapped it out like a chess-board into small portions, whose produce should be determined and used as a basis for qualifying the results of the experiments. This is a process requiring much time and trouble, and is not likely to be waited for patiently by those who are anxious to derive early information regarding any experimental investigation.

Owing to the variations of soil occurring in one plot, comparatively little importance can be attached to the results of cropping on that plot (No. 36), which is divided into portions each the  $1\frac{1}{2}$ th part of an acre. Indeed, that particular part of the Pumpherston station is so unequal in its soil that it must be rejected altogether. This, which seemed at first a great misfortune, will in the end be turned to considerable advantage. An attempt will be made to make a homogeneous soil by removing the soil from the entire plot, and after mixing it thoroughly together and dressing the subsoil, spreading it over the plot again in a uniform manner. This will be done during the summer, when the land is dry and friable, and able to be thoroughly riddled together. In order to attain reliable results with plots the  $1\frac{1}{2}$ th of an acre, the very smallest disturbing causes must be guarded against. Little inequalities of soil are fatal to them. They are a kind of large open-air pot experiments, and if their soil were as uniform as that employed for pot experiments, the results obtained would be thoroughly reliable.

Enough has been said regarding the inaccuracies incident to field experiments arising from diversity of soil among the various plots. Although in Pumpherston station these are considerable, they are yet capable of being estimated in great measure, and are not such as to render the results derived from the cropping untrustworthy. They will diminish year by year under a uniform system of cultivation and manuring, and the chief object contemplated in bringing them so prominently into notice is to show that they are receiving a due amount of attention, and to impress upon experimenters the necessity of exercising the utmost caution in interpreting the results of field experiments, and especially those of a first year, or indeed of a first rotation. Much harm has been done to the progress of scientific agriculture in the past by experimenters being too sanguine, and by those interested in the experiments being too impatient.

It will be seen from the chart accompanying the diagrams, that the system of cultivation is a four-years' rotation of turnips, barley, grass, and oats. The winter which has just passed has been one of almost unexampled severity, and has done great damage to the turnip crop. It is noteworthy, however, that the injury done to the crops on both experimental stations, which were manured only with artificial manures, though it is consider-

able, is by no means so great as that sustained by adjacent crops to which farm-yard manure had been applied.

The crop at Pumpherstons was turnips (Fosterton hybrid). It was sown on June 1st, under the most favourable circumstances as to weather. The manures, which had been prepared with the utmost care, and which were all analysed and found correct, were applied to the various plots with perfect accuracy. Advantage was taken of the excellent method employed at Rothamsted of protecting the manures from the action of wind by the use of large canvas screens, which were carried alongside the sower all down the drills. The only inequality noticeable from this method of procedure was that the outermost drills of some plots received more than their due share of manure, and the effect of this was apparent in the increased crop on these drills, especially on those plots to which very light manures had been applied. So disturbing is the effect of wind, that even with a light breeze blowing screens would be of no avail. To prevent any loss from this cause, dry manure should be moistened previous to sowing.

A long drought, of about six weeks' duration, during which little more than half-an-inch of rain fell, greatly retarded the braird. Thinning took place on the 1st of July; but Plot 11, which had received no phosphates, and Plot 12, which had received bone-ash alone, were not fit for singling till 12th July, while Plot 22, which had received sulphate of potash alone, was the most backward of all, and was not fit for thinning till 24th July.

It is probably an error to suppose that the failure of the crop in Plot 22 was due to the sole action of the potash manure. The manure seems to have retarded the period of thinning, but the period of thinning itself must be considered in the case of this and other late plots. The thinning period is a critical one with turnips when sown in drills and not upon the flat, especially in very dry weather. By a stroke of the hoe they are suddenly bereft of many lateral rootlets, and denuded to some extent of soil, and are thus liable to be scorched. At a late period of the season, when the weather is very hot, the growth is thus retarded to an extent much greater than is capable of being explained by the action of manure alone.

On the Harelaw station the course of events was somewhat different. Sowing began upon the 22d of May, all conditions being very favourable, and the phosphate experiments, Plots 1 to 12, were put down; but, owing to a few hours' delay in forwarding manure, the sowing could not be finished that day. Next day was very wet, and a tack of wet weather set in, which interrupted the sowing for a fortnight. On 3d June the remaining crops were sown, while the first twelve plots were already beginning to braird. There also the rainless June retarded the brairding of the plots latest sown, though not so much as at

Pumpherstons, for the soil is deep and finely porous, and moisture is drawn up from a considerable depth.

The first twelve plots at Harelaw, having thus received the double advantage of a fortnight earlier sowing, and fine moist weather to favour germination, made good root, while the remaining plots were struggling for existence, and the effect seen upon the crop all through the growing was very marked. The consequence is that these plots, though comparable among themselves, cannot be compared with the other plots on the station, except for the purpose of showing how great a difference to the crop is caused by the advantage of a few days' start in the spring. The difference in this case may turn out to be from two to four tons per acre.

Careful notes were taken about once a fortnight at both stations, and a record kept of the progress of the various plots. On comparing the records of both stations, it is found that they corroborate each other in most particulars. The land at Harelaw is in a high state of cultivation, and the difference in the appearance of the various plots was less marked than at Pumpherstons. At each inspection a certain numerical value was assigned to each plot, according to its appearance, and these were often taken by two or more independent observers and found substantially to agree. The main facts recorded in these notes may be shortly summarised as follows:—

*Phosphate Plots.*—It will be seen from the chart that the first ten plots received each an amount of phosphate containing forty pounds of phosphoric acid. The odd numbers received undissolved phosphate, and the even numbers dissolved phosphate. It was noticed that the plots under dissolved phosphates took the start of the others, and their tops first met in the drills. Thereafter, the differences between the odd and even plots became less and less. When the bulbs were formed the same difference was apparent in them, but it was not so pronounced as one would have been led to expect, from the appearance of the leaf. At Harelaw, scarcely any difference could be detected in the size and appearance of the bulbs of these ten plots. Plot 11, however, which received no phosphates, looked very poor, and Plot 12, which received bone-ash alone, even poorer. Plot 5 (bone-dust) and Plot 6 (bone-dust dissolved) were backward at first, but improved considerably towards the end of the season. The plots with mineral phosphates looked quite as well as those with animal phosphates.

*Nitrogenous Manures.*—No difference was noticeable between Plots 13 (nitrate of soda) and 14 (sulphate of ammonia). The shoddy plot (15) was a very poor one, though it began to improve just at the end of the season. Plot 16 (dried blood) was slow to begin, but it improved very rapidly, and in the end looked better

in leaf than the others. Plot 17 (no nitrogen) was a decided failure, especially at Pumpherston, and Plot 18 (nitrate alone) was dark-coloured in the leaf, and came away pretty well at first, but it improved very slowly, and remained very backward.

*Potassic Manures.*—The sulphate of potash plot looked better than the muriate plot all through the season, but the difference was not great. The want of potash did not seem to retard the growth so much as one would have expected, considering the large amount of potash which is found in the ash of turnips. Still more unexpected was the appearance of Plot 22, which received sulphate of potash alone. It did not even look so well as the unmanured plots on either of the stations.

*Guanos (23-26).*—The plots on which these manures were sown were all somewhat backward, especially that with fish guano.

*Superphosphates (28-30).*—The difference between these plots was trifling. What difference did exist was in favour of Plot 19, which had received the medium amount of soluble phosphate.

*Various Quantities (31-34).*—There was no doubt possible regarding the influence of the manures on these plots. The greater the amount of manure the better seemed the crop. Plot 32 however, was an exception on both stations.

*Rape Cake and Cotton Cake (35).*—The half plot with rape cake was decidedly better than the other with cotton cake.

All these rood plots had the same amount of phosphoric acid, potash, and nitrogen applied to them, except Plots 11 and 12, 17 and 18, 21 and 22, which received a partial manure, and Plot 27, which remained unmanured.

*Miniature Plots (36).*—Upon the whole, these plots agreed very nearly with the large ones, of which they were duplicates. This, however, applies only to the Harelaw station. The Pumpherston series, as before remarked, is valueless, on account of the inequalities of the soil.

Unfortunately, owing to the extreme, long-continued, and now renewed frost, it is impossible to do more than refer to the outward appearance of the various plots. The half of the crop is still buried in the snow, and much damage has already been done to some of the yellow turnips at Pumpherston.

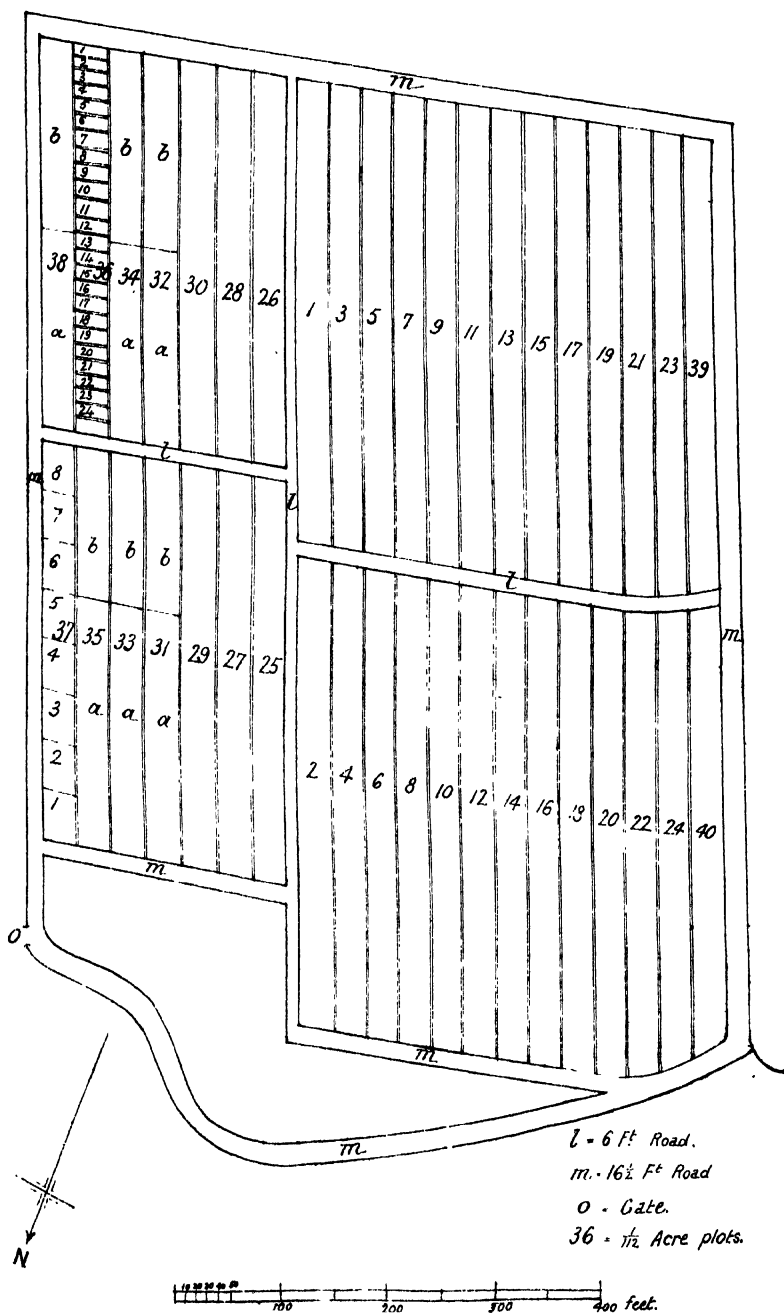
Too much importance must not be attached to the comparisons which have been made between the various plots, as appearances are often deceptive, and the plot which has the best leaf may not produce the best bulbs, and those plots which have large bulbs may not in the end weigh out so well as others.

There were several experiments of a minor kind tried at both stations, one of which, at Harelaw, may be here noticed. A quantity of seed was divided into three portions, according to their specific gravity. For this purpose the seed was put into a

glass cylinder, and water poured upon it. About a fourth rose to the surface, after being well agitated to rid them of air bubbles; this was taken as light seed. Salt water was then added, till the half of the remaining seed rose to the surface; this was taken off as medium seed, and the portion at the bottom constituted the heavy seed. The two latter portions were washed to rid them of brine, and all were spread on cloth over-night to dry. Next morning they were sown. The heavy seed sent up a braird of great strength and quantity, the light seed gave a poor sparse braird, and the medium seed was intermediate. They were all thinned at the same time, the light seeds scarcely requiring any thinning. To my great surprise, on inspecting these a fortnight later, the light seed drills were the best, the heavy ones the worst, and the others intermediate, and this position was maintained during all the growing season. The reason of this was not difficult to find. Of the heavy seed nearly every seed grew, and of course a great struggle took place for the food contained in the soil, and they were not able to make such good root as the few living seeds among the light portion, and what roots they did make were much disturbed in thinning out their closely-packed neighbours. This experiment shows the evil of thick sowing. It is to be noted, however, that there was no appearance of turnip fly. Had that pest appeared, there would probably have been no crop at all from the light seed.

Samples of 40 carefully selected turnips were taken from each of the plots at Pumpherstons before the frost set in—that is to say, about four months ago—and a large proportion of these have been analysed, and afford results which will be interesting and instructive when taken in connection with the full report of the cropping at both stations; but to make any observations on them in their present state would be premature, and might even be misleading.

# HARELAW EXPERIMENTAL STATION.



# SCHEME OF EXPERIMENTS AT THE EXPERIMENTAL AGRICULTURAL STATIONS OF THE HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND, COMMENCED MAY 1878.

At each station there are 10 acres under experiment, divided into 40 plots of 1 rood each. The cropping is a rotation of turnips, barley, grass, and oats. The chief object of the experiments is to determine the crop-producing value of the various forms of the most important manures. The manures on each plot contain 40 lbs. Phosphoric Acid, 30 lbs. Potash, 10 lbs. Nitrogen.

## Phosphatic Manures.

Plot	1.	Bone Ash,	.	.	with Sulphate of Potash.	Nitrate of Soda.
2.	do.	dissolved,	.	.	Muriate	"
3.	Ground Coprolites,	.	.	"	Sulphate	"
4.	do.	dissolved,	.	"	Muriate	"
5.	Bone Dust,	.	.	"	Sulphate	"
6.	do.	dissolved,	.	"	Muriate	"
7.	Phosphatic Guano,	.	.	"	Sulphate	"
8.	do.	dissolved,	.	"	Muriate	"
9.	Ground Apatite,	.	.	"	Sulphate	"
10.	do.	dissolved,	.	"	Muriate	"
11.	No Phosphates,	.	.	"	Sulphate	"
12.	Bone Ash alone.	.	.	"		"

## Nitrogenous Manures.

13.	Nitrate of Soda,	.	.	with Bone Ash.	Sulphate of Potash.
14.	Sulphate of Ammonia,	.	.	"	Muriate
15.	Shoddy,	.	.	"	Sulphate
16.	Dried Blood,	.	.	"	"
17.	No Nitrogen,	.	.	"	"
18.	Nitrate of Soda alone,	.	.	"	"

*Rape Cake and Cotton Cake, see Plot 35.*

## Potash Manures.

19.	Sulphate of Potash,	.	.	with Nitrate of Soda.	Bone Ash.
20.	Muriate	"	.	"	"
21.	No Potash,	"	.	"	"
22.	Sulphate of Potash alone.	.	.		

## Guanos.

23.	Peruvian Guano,	} with Bone Ash and Sulphate of Potash.	{	Containing about 10 % Ammonia, and 10 % soluble Phosphate.
24.	Fish			
25.	Ichaboe			
26.	Imitation			
27.	Unmanured.			

## Superphosphates.

28.	10 % Soluble Phosphate of Lime.	Sulphate of Ammonia.	Muriate of Potash.
29.	20 %	"	"
30.	30 %	"	"

## Various Quantities.

31.	Same as Plot 1.	{	a. $\frac{3}{4}$ quantity per acre.
			b. $1\frac{1}{2}$ "
32.	" " 2.	{	a. $\frac{3}{4}$ "
			b. $1\frac{1}{2}$ "
33.	" " 14.	{	a. $\frac{3}{4}$ "
			b. $1\frac{1}{2}$ "
34.	" " 20.	{	a. $\frac{3}{4}$ "
			b. $1\frac{1}{2}$ "

35. { a. Rape Seed Dust.  
b. Decorticated Cotton Cake.

36. Duplicates of Plots 1 to 23 each= $1\frac{1}{4}$  acre.

37. Analytical Plot:

1.	Full Manure.	5.	Without Lime.
2.	Without Phosphoric Acid.	6.	" Magnesia.
3.	" Nitrogen.	7.	" Sulphuric Acid.
4.	" Potash.	8.	Unmanured.

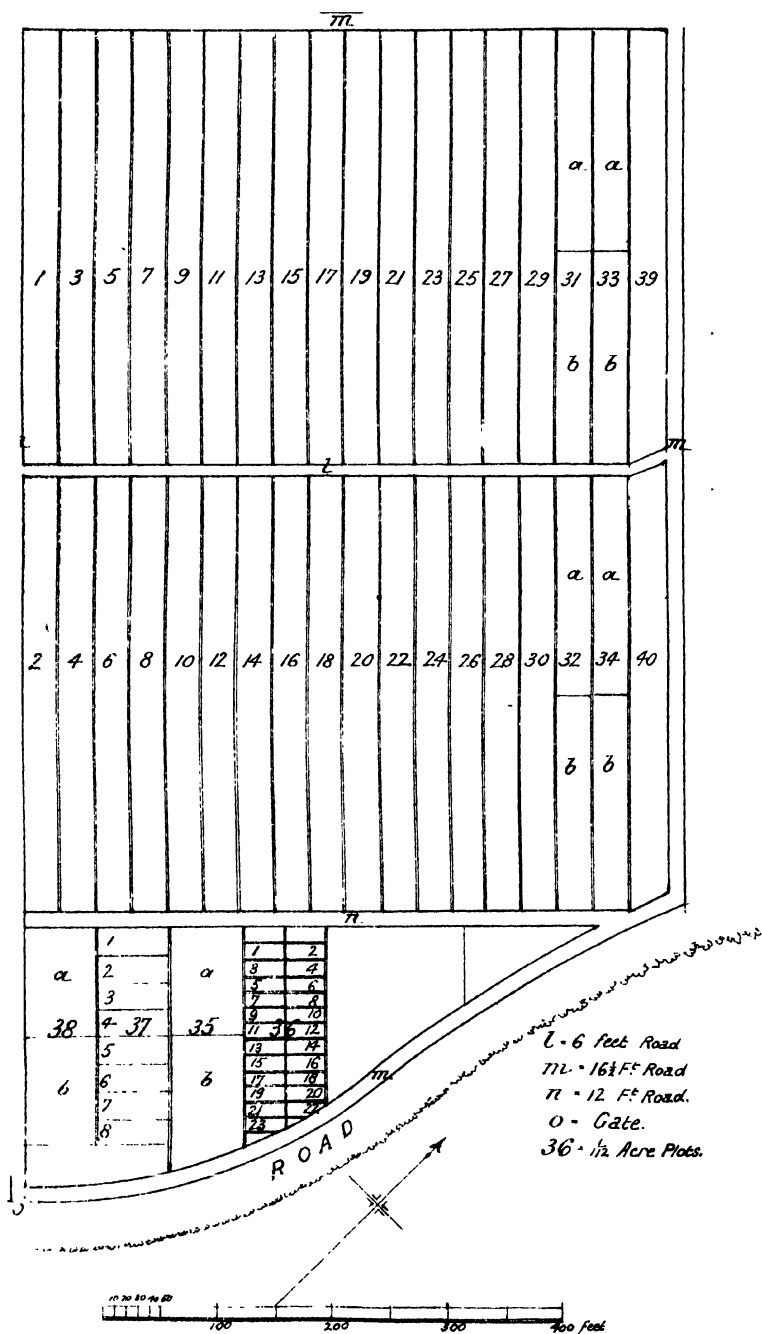
38. Sulphuric Acid, and Sulphate of Lime.

{ a. 1 cwt.  
b. 2 cwt.

39. } Continuous white crops.



# PUMPHERSTON EXPERIMENTAL STATION



At each station there are 10 acres under experiment, divided into 40 plots of 1 rood each. The cropping is a rotation of turnips, barley, grass, and oats. The chief object of the experiments is to determine the crop-producing value of the various forms of the most important manures. The manures on each plot contain 40 lbs. Phosphoric Acid, 30 lbs. Potash, 10 lbs. Nitrogen.

Plot	Fertilizer	with Sulphate of Potash.	Nitrate of Soda.
1.	Bone Ash,	.	.
2.	do. dissolved,	" Muriate "	" "
3.	Ground Coprolites,	" Sulphate "	" "
4.	do. dissolved,	" Muriate "	" "
5.	Bone Dust,	" Sulphate "	" "
6.	do. dissolved,	" Muriate "	" "
7.	Phosphatic Guano,	" Sulphate "	" "
8.	do. dissolved,	" Muriate "	" "
9.	Ground Apatite,	" Sulphate "	" "
10.	do. dissolved,	" Muriate "	" "
11.	No Phosphates,	" Sulphate "	" "
12.	Bone Ash alone.		

13.	Nitrate of Soda,	.	.	with Bone Ash.	Sulphate of Potash.
14.	Sulphate of Ammonia,	.	.	" "	Muriate "
15.	Shoddy,	.	.	" "	Sulphate "
16.	Dried Blood,	.	.	" "	" "
17.	No Nitrogen,	.	.	" "	" "
18.	Nitrate of Soda alone,	.	.	" "	" "

19. Sulphate of Potash,	.	.	with Nitrate of Soda.	Bone Ash.
20. Muriate	„	.	„	„
21. No Potash,	.	.	„	„
22. Sulphate of Potash alone.	.	.	„	„

23. Peruvian Guano,	} with Bone Ash and Sulphate of Potash. {	Containing about 10 % Ammonia, and 10 % soluble Phosphate.
24. Fish            "		
25. Ichaboe       "		
26. Imitation     "		
27. Unmanured.		

28.	10 %	Soluble Phosphate of Lime.	Sulphate of Ammonia.	Muriate of Potash.
29.	20 %	"	"	"
30.	30 %	"	"	"

31. Same as Plot 1.	{	a. $\frac{3}{4}$ quantity per acre.
		b. $1\frac{1}{2}$ "
32. " " 2.	{	a. $\frac{3}{4}$ "
		b. $1\frac{1}{2}$ "
33. " " 14.	{	a. $\frac{3}{4}$ "
		b. $1\frac{1}{2}$ "
34. " " 20.	{	a. $\frac{3}{4}$ "
		b. $1\frac{1}{2}$ "

35. { *a.* Rape Seed Dust.  
      *b.* Decorticated Cotton Cake.

36. Duplicates of Plots 1 to 22 each= $\frac{1}{2}$  acre.

37. Analytical Plot:

- |                             |                      |
|-----------------------------|----------------------|
| 1. Full Manure.             | 5. Without Lime.     |
| 2. Without Phosphoric Acid. | 6. " Magnesia.       |
| 3. " Nitrogen.              | 7. " Sulphuric Acid. |
| 4. " Potash.                | 8. Unmanured.        |

### 38. Sulphuric Acid, and Sulphate of Lime.

39. } Continuous white crops.  
40. }

## WEIGHT OF MANURES APPLIED TO PLOTS.

Plots.	Bone Ash.	Ground Coprolites.	Bone Dust.	Phosphatic Guano.	Ground Apatite.	Nitrate of Soda.	Sulphate of Ammonia.	Shoddy.	Dried Blood.	Sulphate of Potash.	Chloride of Potassium.	Peruvian Guano.	Fish Guano.	Ichaboe Guano.	Sulphuric Acid.	Rape Dust.	Cotton-cake Dust.	Total weight of Manure per Acre.	Price of Manures per Acre.
	Lbs.																	Cwts. lbs.	£ s. d.
1	111	..				64				93	..				..			9 64	5 0 4
2	111	..				64				..	78				..			12 16	4 10 4
3	..	155				64				93	..				..			11 16	4 12 8
4	..	155				23				..	78				95			14 0	4 12 8
5	..	..	163			28				93	..				..			10 16	4 13 4
6	..	..	163			28				..	78				81			12 56	4 11 8
7	..	..	..	116		64				93	..				..			9 84	5 3 0
8	..	..	..	116		64				..	78				58			11 32	4 19 0
9	..	..	..	..	104	64				93	..				..			9 36	4 4 4
10	..	..	..	..	104	64				..	78				64			11 8	4 1 0
11	..	..	..	..	..	64				93	..				..			5 68	3 7 8
12	111	..	..	..	..	..				..	..				..			3 108	1 12 8
13	111	..	..	..	..	64				93	..				..			9 64	5 0 4
14	111	..	..	..	..	..	50			..	78				..			8 60	4 11 8
15	111	..	..	..	..	..	122			93	..				..			11 72	4 0 0
16	111	..	..	..	..	..	..		97	93	..				..			10 84	5 2 8
17	111	..	..	..	..	..	..		..	93	..				..			7 22	3 2 8
18	..	..	..	..	..	64				..	..				..			2 32	1 17 8
19	111	..	..	..	..	64				93	..				..			9 64	5 0 4
20	111	..	..	..	..	64				..	78				..			9 4	4 10 0
21	111	..	..	..	..	64				..	..				..			6 28	3 10 4
22	..	..	..	..	..	..				93	..				..			3 36	1 10 0
23	57	..	..	..	..	..				73	..	128			..			9 24	5 2 4
24	..	..	..	..	..	..				78	..	..	117		40			9 80	3 13 0
25	..	..	..	..	..	..				78	..			93	..			9 32	3 10 0
26	111	..	..	..	..	13		17	47	39	..			..	100	50		13 52	4 4 4
27	..	..	..	..	..	..				..	..				..			..	..
28	111	..	..	..	..	50				..	78				36			9 92	4 16 0
29	111	..	..	..	..	50				..	78				72			11 12	5 0 0
30	111	..	..	..	..	50				..	78				108			12 44	5 3 8
31	a	37	..	..	..	21				31	..				..			6 43	3 6 10
	b	74	..	..	..	43				62	..				..			12 86	6 13 8
32	a	37	..	..	..	21				..	26				29			8 10	3 0 0
	b	74	..	..	..	43				..	52				58			16 20	6 0 0
33	a	37	..	..	..	..				..	26				..			5 76	3 1 0
	b	74	..	..	..	..				..	52				..			11 40	6 2 0
34	a	37	..	..	..	21				..	26				..			6 3	3 0 0
	b	74	..	..	..	43				..	52				..			12 6	6 0 0
35	a	49	..	..	..	..				..	..				..	125		15 0	5 16 0
	b	56	..	..	..	..				46	..				..	84		13 32	5 12 0

AGRICULTURAL STATISTICS OF SCOTLAND.—RETURNED UPON 4TH JUNE 1878.—(Extracted from the *Government Returns*.)  
TABLE No. 1.—TOTAL AREA AND ACREAGE UNDER EACH KIND OF CROP, BARE FALLOW, AND GRASS, IN EACH COUNTY OF SCOTLAND.

COUNTIES.	No. of Occupants.	Total Area. Acres.	Total Acres under Crops, Bare Fal- low, and Grass.				CORN CROPS.				GREEN CROPS.			
			Wheat.	Barley or Bere.	Outs.	Rye.	Beans.	Pears.	Total.	Potatoes.	Turnips.	Mangold.	Carrots.	
1. Aberdeen .	1875.	1,260,625	Acres. 240	Acres. 16,135	Acres. 195,085	Acres. 677	Acres. 208	Acres. 199	Acres. 212,514	Acres. 7,690	Acres. 94,134	Acres. 1	Acres. 69	
2. Argyll .	11,620	2,063,126	4	2,214	17,898	383	359	16	23,903	6,357	5,618	82	17	
3. Argyll .	3,794	735,262	3,502	2,524	52,178	410	1,424	19	60,057	7,358	8,736	730	355	
4. Banff .	4,225	439,219	263	7,468	53,392	260	210	34	61,667	2,657	23,624	4	3	
5. Berwick .	992	297,161	3,644	22,833	34,743	72	1,876	234	63,402	2,912	30,611	78	2	
6. Bute .	468	143,997	100	538	4,938	46	120	10	5,752	1,236	1,612	13	2	
7. Caithness .	2,603	455,708	7	1,343	33,808	55	757	33	35,246	1,999	13,992	1	1	
8. Clackmannan .	311	172,677	411	1,000	3,470	—	363	5	5,668	347	879	21	1	
9. Dumbarton .	793	172,677	1,246	238	8,460	—	9	—	10,321	2,793	1,678	30	37	
10. Dumfries .	2,622	705,946	375	779	48,832	47	98	53	50,132	4,597	20,929	72	27	
11. Edinburgh .	1,454	234,926	375	10,944	22,428	84	385	53	38,947	6,978	12,734	13	29	
12. Elgin .	2,072	340,000	3,164	12,629	22,686	1,182	69	39	39,769	3,643	16,007	18	1	
13. Fife .	2,428	328,427	12,374	31,069	41,029	1,298	2,349	37	88,156	16,471	28,611	23	38	
14. Forfar .	2,832	569,840	9,416	31,593	52,802	528	1,060	49	95,448	16,479	33,953	10	29	
15. Haddington .	607	179,142	9,713	16,729	17,431	66	1,446	76	45,461	9,419	14,668	38	261	
16. Inverness .	6,189	273,501	352	7,242	30,590	964	32	59	39,239	8,136	11,161	2	2	
17. Kinross .	1,915	248,264	477	12,370	30,943	99	617	43	44,549	3,378	18,425	—	13	
18. Kirkcaldy .	316	49,812	134	1,493	5,953	17	25	—	7,622	783	2,940	—	1	
19. Kirkcubright .	1,612	610,343	259	3,055	31,376	76	264	—	32,334	2,172	14,902	63	34	
20. Lanark .	3,486	568,868	3,038	597	44,294	130	1,795	51	50,925	7,892	9,261	42	105	
21. Leithgow .	581	81,114	1,382	4,783	11,292	—	916	16	18,389	2,387	4,078	37	—	
22. Nairn .	413	137,500	45	2,658	6,300	—	—	14	9,411	752	4,102	—	—	
23. Orkney .	3,148	598,726	—	5,897	29,916	—	—	27	35,840	3,014	12,996	—	—	
24. Shetland .	3,839	54,035	—	2,769	8,004	—	—	—	10,713	2,724	743	—	—	
25. Peebles .	332	227,869	41,794	1,321	9,536	17	3,445	60	10,974	757	5,261	—	—	
26. Perth .	5,399	1,694,690	339,723	24,755	68,063	220	579	141	104,420	18,251	31,547	39	17	
27. Renfrew .	1,489	162,428	93,534	182	14,571	9	36	18	17,602	4,931	2,302	74	15	
28. Ross & Cromarty .	6,536	2,016,375	127,637	10,591	31,170	1,169	36	100	47,228	9,876	16,631	12	7	
29. Roxburgh .	1,206	428,404	179,068	15,812	33,992	138	501	96	51,300	1,962	26,515	45	—	
30. Selkirk .	245	166,524	23,148	599	4,432	—	1	1	5,065	1,82	2,841	—	—	
31. Stirling .	1,590	298,579	112,732	4,810	20,084	84	3,457	4	30,556	3,891	4,545	7	9	
32. Sutherland .	2,601	1,207,188	28,993	2,286	7,607	84	—	41	10,109	1,952	3,077	—	—	
33. Wigton .	1,317	327,906	146,089	2,512	32,559	90	386	3	38,188	1,787	16,253	303	190	
Total .	82,637	19,496,132	75,363	259,038	1,330,545	8,764	22,778	1,479	1,400,967	165,763	497,356	1,758	1,243	

TABLE No. 1.—continued.

COUNTIES.	No. of Occupants.	Total Area.	Total Acreage under Crops, Bare fallow, and Grass.	GREEN CROPS—continued.			Clover, Sanfoin, and Grasses under Rotation.			Permanent Pasture or Grass not broken up in Rotation (exclusive of Heath or Mountain Land).		Flax.	Bare Fallow or Uncropped Arable Land.
				Cabbage, Kohl-Rabi, and Rape.	Vetches, &c.	Total.	For Hay.	Not for Hay.	Total.	For Hay.	Not for Hay.		
		Acres.		Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1. Aberdeen . . . . .	1875.	1,260,625	601,968	75	2,556	104,635	41,577	214,069	255,646	1,134	26,863	—	586
2. Argyll . . . . .	11,620	2,093,136	117,898	132	50	12,256	10,063	9,655	19,718	11,962	48,858	—	1,201
3. Argyll . . . . .	3,734	733,262	314,191	171	204	17,967	29,685	73,573	103,258	14,210	118,198	4	907
4. Banff . . . . .	4,225	439,219	166,510	844	844	29,139	12,533	52,992	65,525	641	9,370	—	268
5. Banff . . . . .	4,225	439,219	166,510	844	844	29,139	12,533	52,992	65,525	641	9,370	—	268
6. Berwick . . . . .	382	297,161	133,022	916	719	35,238	8,748	49,953	58,699	1,945	34,075	—	263
7. Berwick . . . . .	488	143,997	25,058	5	10	2,878	2,598	4,272	6,870	638	8,635	—	285
8. Caithness . . . . .	2,003	455,708	105,250	449	695	16,737	8,780	16,808	25,588	2,910	24,073	—	696
9. Clackmannan . . . . .	311	31,876	13,620	44	101	1,393	1,206	1,362	2,568	327	5,639	—	352
10. Dumfriesshire . . . . .	795	173,677	46,314	62	111	4,711	7,536	12,980	16,453	1,711	16,453	7	131
11. Dumfriesshire . . . . .	2,622	705,946	227,745	476	94	26,195	15,265	52,879	68,144	14,384	68,649	—	241
12. Edinburgh . . . . .	1,454	234,926	133,757	993	879	21,628	11,677	19,583	31,260	1,584	40,118	—	220
13. Elgin . . . . .	2,072	340,000	104,274	19	391	20,079	7,967	31,079	39,046	225	5,064	—	91
14. Forfar . . . . .	2,428	328,427	245,380	114	1,068	46,265	23,836	33,459	58,325	3,378	46,866	—	1,390
15. Haddington . . . . .	2,892	569,840	232,902	55	870	51,396	17,732	63,683	81,415	1,489	22,808	—	348
16. Inverness . . . . .	607	173,142	114,614	235	148	25,269	10,532	16,163	26,715	1,058	15,445	—	666
17. Kinross . . . . .	6,189	272,501	124,112	10	679	19,490	11,263	18,182	29,445	3,425	31,880	—	683
18. Kinross . . . . .	1,915	248,284	130,361	17	422	22,255	11,803	35,622	47,425	296	5,831	—	65
19. Kirkcubright . . . . .	316	48,812	31,268	29	60	3,813	2,052	9,093	11,145	675	7,394	—	19
20. Lanark . . . . .	3,486	610,348	174,171	426	99	17,696	9,526	47,983	56,809	10,116	57,082	—	134
21. Linlithgow . . . . .	581	568,868	243,874	474	826	18,690	26,865	43,941	70,108	10,331	33,266	15	641
22. Nairn . . . . .	413	137,500	26,946	23	288	6,813	6,726	7,514	14,210	1,688	17,344	11	380
23. Orkney . . . . .	839	99,833	99,833	69	305	16,884	2,339	19,682	9,925	36	1,950	—	23
24. Shetland . . . . .	2,839	598,726	51,035	264	—	3,731	490	267	757	1,471	17,404	—	1,109
25. Peebles . . . . .	332	227,869	41,794	498	153	6,669	2,810	10,453	13,263	1,656	35,989	—	1,189
26. Perth . . . . .	5,369	1,054,560	539,723	121	1,068	51,041	31,376	63,612	94,988	1,418	9,464	—	46
27. Renfrew . . . . .	1,469	162,428	93,534	166	194	7,682	11,849	5,607	17,456	11,019	76,245	—	2,010
28. Ross & Cromarty . . . . .	6,336	2,016,975	127,637	599	603	27,181	11,759	28,907	32,992	2,666	46,210	—	177
29. Roxburgh . . . . .	1,206	428,494	179,068	477	495	29,501	8,239	48,077	56,336	3,606	37,902	—	343
30. Selkirk . . . . .	245	166,524	23,148	198	36	3,257	781	5,981	7,632	918	7,096	—	272
31. Selkirk . . . . .	1,590	298,579	112,732	87	468	9,907	11,637	14,009	25,646	3,891	42,110	61	50
32. Sutherland . . . . .	2,601	1,207,198	28,993	222	39	5,290	3,148	14,009	25,646	3,891	42,110	—	1,461
33. Wigton . . . . .	1,317	327,906	146,089	63	156	18,752	5,552	46,865	52,437	3,390	6,109	—	75
Total . . . . .	82,637	10,400,132	4,690,206	6,564	14,615	687,319	375,869	1,055,655	1,431,524	119,655	1,033,860	98	16,783

TABLE No. 2.—NUMBER OF HORSES, CATTLE, SHEEP, AND PIGS, IN EACH COUNTY OF SCOTLAND.

Counties.	Horses (including Ponies).			CATTLE.			SHEEP.			Pigs.
	Used solely for Agriculture, &c.	Kept solely for Breeding.	Total.	Cows and Heifers in Milk or in Calf.	Other Cattle.		1 Year Old and above.	Under 1 Year.	Total.	
					2 years of Age and above.	Under 2 Years of Age.				
1. Aberdeen . . . . .	19,896	6,327	26,223	41,963	43,092	73,153	101,869	39,747	141,116	7,217
2. Argyl . . . . .	4,018	3,347	7,365	22,631	16,945	21,326	712,563	292,826	1,005,409	4,267
3. Argy . . . . .	6,894	2,675	9,569	44,138	15,490	29,252	88,880	134,065	253,712	14,381
4. Banff . . . . .	6,254	1,840	8,094	12,834	7,413	21,814	42,061	31,406	49,358	3,268
5. Berwick . . . . .	4,148	1,238	5,386	8,335	4,952	7,014	15,301	118,270	270,145	4,612
6. Bute . . . . .	750	382	1,132	3,161	1,740	2,047	7,748	28,320	42,430	732
7. Caithness . . . . .	3,713	1,357	5,070	6,983	2,763	10,103	19,849	59,993	88,968	1,392
8. Clackmannan . . . . .	518	168	686	1,228	1,112	1,242	6,779	3,313	10,092	1,574
9. Dumbarton . . . . .	1,232	578	1,810	6,475	2,424	3,562	47,362	23,396	70,758	872
10. Dumfries . . . . .	5,419	1,973	7,392	16,325	14,927	22,342	315,579	186,941	502,520	12,062
11. Edinburgh . . . . .	3,408	701	4,109	10,141	4,477	4,173	63,584	68,964	171,951	5,665
12. Elgin . . . . .	3,883	1,090	4,973	6,976	4,831	12,166	33,535	18,237	51,772	3,063
13. Elph . . . . .	7,627	2,364	9,991	8,584	14,719	14,399	37,702	43,813	81,515	6,081
14. Forfar . . . . .	8,236	1,928	10,164	11,452	18,281	17,672	47,405	85,827	122,798	5,900
15. Haddington . . . . .	3,195	512	3,707	1,860	3,663	2,433	7,856	42,192	107,598	3,100
16. Inverness . . . . .	6,725	2,134	8,859	20,454	9,295	22,008	61,757	199,564	722,887	2,444
17. Kincardine . . . . .	8,836	1,032	9,868	6,554	7,609	12,336	26,499	9,991	38,058	2,551
18. Kinross . . . . .	685	281	976	1,047	1,886	2,576	5,509	9,461	25,181	651
19. Kirkcudbright . . . . .	8,750	1,676	10,426	12,407	11,643	14,589	38,639	124,122	371,507	6,502
20. Lanark . . . . .	5,070	2,226	7,296	33,560	12,712	19,533	65,805	79,785	219,368	7,042
21. Linlithgow . . . . .	1,558	544	2,102	3,607	3,262	10,169	14,683	8,664	21,947	1,949
22. Nairn . . . . .	961	279	1,240	1,795	1,160	3,243	14,899	4,734	19,623	734
23. Orkney . . . . .	4,321	1,164	5,485	8,680	4,123	11,543	24,346	16,041	40,385	3,216
24. Shetland . . . . .	973	476	1,449	8,229	6,428	6,188	20,840	32,302	87,601	4,367
25. Peebles . . . . .	914	222	1,136	2,099	1,456	2,477	55,299	80,051	199,679	905
26. Perth . . . . .	10,606	3,224	13,830	19,540	23,239	31,821	74,600	907,645	678,040	9,724
27. Renfrew . . . . .	2,255	926	3,181	14,802	8,362	5,714	24,478	11,693	33,300	1,550
28. Ross and Cromarty . . . . .	5,626	1,715	7,341	17,402	9,644	14,697	41,743	108,914	366,106	6,501
29. Roxburgh . . . . .	3,742	816	4,557	4,578	5,631	6,174	286,265	226,276	512,541	3,945
30. Selkirk . . . . .	482	102	584	957	598	910	2,465	72,735	167,556	418
31. Stirling . . . . .	3,177	1,610	4,787	9,515	9,358	9,947	72,750	41,154	113,904	2,068
32. Sutherland . . . . .	2,005	491	2,496	5,753	2,290	4,392	172,527	62,059	234,586	1,165
33. Wigton . . . . .	4,000	1,792	5,792	19,094	7,950	13,357	83,548	47,482	131,030	9,491
Total, . . . . .	139,887	51,529	191,416	388,002	278,120	428,265	4,647,224	2,389,172	7,036,396	140,189

TABLE No. 3.—ACREAGE UNDER ORCHARDS, MARKET GARDENS, NURSERY GROUNDS, AND WOODS, IN EACH COUNTY IN SCOTLAND, IN THE YEAR 1878.

COUNTIES.	ORCHARDS, &c.	MARKET GARDENS.	NURSERY GROUNDS	WOODS.
	Acreeage of Arable or Grass Lands, but also used for Fruit Trees of any kind.	Land used by Market Gardeners for growth of Vegetables and other Garden Produce.	Land used by Nurserymen for growing Trees, Shrubs, &c.	Coppices or Plantations, excepting Gorse Land and Garden Shrubberies, as returned in 1872.
	Acres.	Acres.	Acres.	Acres.
Aberdeen, . . .	37	461	205	93,339
Argyll, . . .	7	12	19	45,641
Ayr, . . .	64	67	118	22,145
Banff, . . .	5	8	6	26,190
Berwick, . . .	24	31	19	12,919
Bute, . . .	—	41	19	3,004
Caithness, . . .	—	8	1	440
Clackmannan, . . .	10	11	—	2,044
Dumbarton, . . .	2	34	15	8,388
Dumfries, . . .	55	14	146	27,472
Edinburgh, . . .	114	895	506	10,320
Elgin or Moray, . . .	37	4	81	45,368
Fife, . . .	42	52	34	22,003
Forfar, . . .	53	230	110	31,857
Haddington, . . .	64	432	11	9,439
Inverness, . . .	29	10	60	118,818
Kincardine, . . .	—	16	10	23,153
Kinross, . . .	—	—	—	3,551
Kirkcudbright, . . .	11	3	27	17,346
Lanark, . . .	489	192	44	20,862
Linlithgow, . . .	4	15	12	4,719
Nairn, . . .	6	—	2	14,349
Orkney, . . .	—	—	—	—
Shetland, . . .	—	—	—	—
Peebles, . . .	—	2	12	9,041
Perth, . . .	349	390	89	83,525
Renfrew, . . .	63	126	66	5,461
Ross and Cromarty, . . .	5	2	11	33,452
Roxburgh, . . .	30	31	69	13,387
Selkirk, . . .	2	—	—	2,973
Stirling, . . .	34	17	53	11,156
Sutherland, . . .	1	—	10	7,296
Wigtown, . . .	4	8	51	4,832
Total for Scotland, .	1,541	8,112	1,806	734,490

# APPENDIX (A).

## PROCEEDINGS AT BOARD MEETINGS.

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### MEETING OF DIRECTORS, 6TH FEBRUARY 1878.

*Present*—Sir Alexander Jardine of Applegarth, Bart.; Sir William Baillie of Polkennet, Bart.; Admiral Sir William J. Hope Johnstone, K.C.B.; Mr Graham Binny, W.S.; Mr Dudgeon of Cargen; Mr Ferguson, Kinnochtry; Mr Hog of Newliston; Mr James Hope, Duddingston; Mr Hunter of Thurston; Mr Irvine of Drum; Mr Christopher Johnstone, Dinwoodie Lodge; Mr Kennedy (of Sundaywell), Brandleys; Mr Martin, yr. of Auchendennan; Mr Murray of Dollerie; Mr Mylne, Niddrie Mains; Mr Oswald of Dunnikier; Mr Plummer of Sunderland Hall; Mr Smith, Whittinghame; Captain Tod of Howden; Mr Walker of Bowland, C.B.; and Dr A. P. Aitken. Sir ALEXANDER JARDINE in the chair.

Mr F. N. MENZIES reported apologies for the absence of Lord Polwarth; Mr Howatson of Dornel; Mr Kenneth Mackenzie, C.A.; Mr Ralston, Glamis House; Mr Ritchie of Middleton; and Professor Wilson.

EDINBURGH SHOW, 1877.—Letters were submitted from Mr Dundas of Arniston and from Mr Harris, depute town-clerk, acknowledging the votes of thanks passed at last general meeting.

DUMFRIES SHOW.—*Implement Regulations.*—Agreeably to previous arrangement, a deputation from the Scottish Agricultural Engineers' Association waited on the Directors at their meeting to-day, their object being to lay before the Board the grievances implement exhibitors feel hinder the thorough success that might otherwise attend the exhibition and trials of implements held by the Society. In the statement by the Association, it is stated that they object: “(1) To the present mode of inspecting and judging implements in the show ground; (2) to the arrangement which provides that all new inventions, and improvements, and machinery in motion be entered in different sections, and placed separately in the show ground; (3) that the charge for ground is not in proportion to the money expended by the Society in awards to implement exhibitors; (4) that of late the extent of free ground allotted to members has been considerably decreased, while the charge for additional space has been considerably increased.”

After the deputation had been heard in support of their statement, it was intimated by the Chairman (1) that the mode of inspecting and judging implements had been altered; (2) that the rule by which all new inventions and improvements required to be entered separately had also been altered; and that an endeavour would be made to have the goods of those exhibiting in the section for ordinary implements, and also in the motion, placed as near each other as possible.

After the deputation had retired, the Board remitted the matter to the General Show Committee for consideration and report.

PREMIUMS.—A letter from Mr Chalmers, Shielhill, suggesting that a premium should be offered for farm management in the districts where the annual show is held, was referred to the General Show Committee.

PARIS AGRICULTURAL CONGRESS.—At the Board meeting on the 16th of January, it was agreed, in accordance with the request of the Society of Agriculturists of France, to prepare an account of the agriculture of Scotland, and a committee, consisting of Professor Wilson (convener); Mr Wilson, Wellnage; Mr Melvin, Bonnington; Mr Mylne, Niddrie Mains; Mr Scot Skirving; and Dr Aitken, were appointed for the purpose of drawing up such a report as is contemplated. The committee have held several meetings, and it has been resolved that the proposed report should consist of a description (1) of the area, general physical features, geology, and climatology of Scotland; (2) of the farming and general rural economy of the east and west coasts and central and hill districts; and (3) short descriptions of Clydesdale horses, and of cattle and sheep special to Scotland. Writers were named to draw up reports, and Professor Wilson was appointed to collect and edit the different papers for the memoir.

COMMITTEES FOR 1878.—The various Committees for the current year were arranged.



## MEETING OF DIRECTORS, 6TH MARCH 1878.

**Present**—The Right Hon. Lord Polwarth; Sir Alexander Jardine of Applegarth, Bart.; Admiral Sir W. J. Hope Johnstone, K.C.B.; Mr Graham Binny, W.S.; Mr Dickson of Corstorphine; Mr Dudgeon of Cargen; Mr Hog of Newliston; Mr Hope, Duddingston; Mr Howatson of Dornel; Mr Hunter of Thurston; Mr Irvine of Drum; Mr John Ord Mackenzie of Dolphinton; Mr Oswald of Dunnikier; Mr Plummer of Sunderland Hall; Mr Smith, Stevenson Mains; Mr Smith, Whittinghame; Captain Tod of Howden; Professor Wilson; Dr A. P. Aitken, chemist to the Society. Sir ALEXANDER JARDINE, Bart., in the chair.

Mr F. N. MENZIES reported apologies for the absence of Mr Ferguson, Kinnochtry; Mr Johnstone, Dinwoodie Lodge; Mr Kennedy (of Sundaywell), Brandleys; Mr Kenneth Mackenzie, C.A.; Mr Martin, yr. of Auchendennan; Mr Murray of Dolerie; Mr Mylne, Niddrie Mains; Mr Ralston, Glamis; Mr David Stevenson, C.E.; and Mr Walker of Bowland, C.B.

**DUMFRIES SHOW, 1878.—Implement Regulations.**—The following report by the Committee on General Shows in reference to the statement received from the Scottish Agricultural Engineers' Association, dated 13th February, was submitted:—"The Secretary having read the remit from the Board of 6th February, and the Committee having carefully considered the same, along with the existing implement regulations, beg to report as follows:—In the statement of grievances by the Scottish Agricultural Engineers' Association, it is stated that they object: '(1) To the present mode of inspecting and judging implements in the show ground; (2) to the arrangement which provides that all new inventions, and improvements, and machinery in motion be entered in different sections and placed separately in the show ground; (3) that the charge for ground is not in proportion to the money expended by the Society in awards to implement exhibitors; and (4) that of late the extent of free ground allotted to members has been considerably decreased, while the charge for additional space has been considerably increased.' Under the first head, the Committee recommend that to the rule stating that the official duties of the Implement Committee are to inspect the new inventions and improvements, and that they may award such minor gold or silver medals as they see fit after due trial or otherwise, the following clause should be added: 'It being understood that no award will be made without an exhaustive trial, if the implement admits of such trial.' Under the second head the Committee recommend that the rule on this point should be: 'All new inventions and improvements, with the exception of those in motion, will be placed in the catalogue at the head of each exhibitor's entry, and must be arranged by him at the beginning of his stand according to the numbers in the catalogue;' and to meet the case of those exhibiting in two sections, that a new section should be added to the list, namely: 'All under cover, or all open, for articles not in motion belonging to exhibitors in the motion yard,' and that this section, and the one for the motion yard, should be placed next each other. Under the third and fourth heads the Committee have to remark that at present implement exhibitors are allowed 20 feet by 20 feet open space, or in motion yard 8 feet by 50 feet free, and that the rate for additional open space is only half of what is charged to non-members. The Committee may further observe that the space allowed free is equal to double the amount of an annual subscription, and that no other class of exhibitors has a similar concession. For these reasons the Committee cannot recommend any reduction in the rate, as, looking to the large sum the Society has to pay for the use of the ground, they are of opinion that in respect of the grievances stated under the third and fourth heads implement exhibitors are most liberally dealt with."

The Board approved of the report, and the Secretary was instructed to transmit a copy of it to the secretary of the Scottish Agricultural Engineers' Association.

**Competition of Thoroughbred Stallions.**—The Secretary reported that the local committee in charge of the competition for the premium of £50 for a thoroughbred stallion to serve in the Dumfries district this season had fixed the competition to be held on the Whitesands, Dumfries, on the 20th March, at 11 o'clock, and that entries must be made before 10 A.M. on the day of the show with Mr Thomas B. Anderson, 76 Irish Street, Dumfries.

**AGRICULTURAL EDUCATION.**—The Board approved of the examination for the Society's agricultural certificates and diploma being held on the 1st, 2d, and 3d of April, candidates being required to lodge intimation before the 16th of March.

**VETERINARY EXAMINATIONS.**—It was remitted to the Secretary to arrange the days for the examination of candidates for the Society's veterinary certificate.

**MISCELLANEOUS SUBJECTS.**—Letters were submitted from Mr A. H. Hutchison, vice-consul, Leith, sending two copies of the regulations now in force in Sweden and Norway, having for their object the prevention of the introduction and spread of cattle disease in these countries; from the Rev. John Gillespie, Mouswald Manse, Dumfries, presenting for the library of the Society a copy of part I, volume II. of the "Galloway Herd-Book;" from Mr George Fleming, veterinary surgeon, 2d Life Guards, presenting copy

of his work on "Veterinary Obstetrics;" and from the Royal Observatory with the 14th vol. of the "Edinburgh Astronomical Observations" from 1870-77.

PARIS AGRICULTURAL CONGRESS.—The Board resolved that the report on the agriculture of Scotland, which is being prepared at the request of the Society of Agriculturists of France, should be sent to Paris in print. The report will contain a description of the area, general physical features, geology, and climatology of Scotland; of the farming and general rural economy of the east and west coasts and central and hill districts respectively; of the breeds of horses, cattle, and sheep special to Scotland; statistics of the agriculture of Scotland; and an account of the principal proceedings of the Highland and Agricultural Society from its institution in 1784.

### MEETING OF DIRECTORS, 3d APRIL 1878.

*Present*—Admiral Sir William J. Hope Johnstone, K.C.B.; Professor Balfour; Mr Graham Binny, W.S.; Mr James Hope, Duddingston; Mr Hunter of Thurston; Mr Kennedy (of Sundaywell), Brandleys; Mr John Ord Mackenzie of Dolphinton; Mr Murray of Dollerie; Mr Mylne, Niddrie Mains; Mr Plummer of Sunderland Hall; Mr Ralston, Glamis House; Mr Smith, Whittinghame; Mr Smith, Stevenson Mains; Mr David Stevenson, C.E.; Mr Walker of Bowland, C.B.; Professor Wilson. Mr SMITH, Stevenson Mains, in the chair.

M. F. N MENZIES reported apologies for the absence of the Marquis of Lothian, K.T.; Sir Alexander Jardine of Applegarth, Bart.; Mr Dickson of Corstorphine; Mr Howatson of Dornel; Mr Irvine of Drum; Mr Johnstone, Dinwoodie Lodge; Mr Mackenzie of Portmore; Mr Kenneth Mackenzie, C.A.; and Mr Martin, yr. of Auchendennan.

DEATH OF SIR WILLIAM GIBSON-CRAIG, BART., AND MR ELLIOTT LOCKHART.—The Directors having expressed their deep regret at the loss sustained by the Society by the death of the Right Hon. Sir Wm. Gibson-Craig of Riccarton, Bart., treasurer of the Society; and of Mr Elliott Lockhart of Borthwickbrae, a former member of the Board, it was remitted to the Secretary to draw up resolutions of condolence previous to the next general meeting.

OFFICE OF AUDITOR.—On a letter being read from Mr Kenneth Mackenzie, C.A., asking the Directors to conjoin with him in the office of auditor to the Society the name of his partner, Mr John Turnbull Smith, C.A., the Directors unanimously agreed to the request, and appointed Mr Smith accordingly.

PARIS AGRICULTURAL CONGRESS.—Copies of the report on the present state of the agriculture of Scotland, arranged under the auspices of the Society, to be presented at the International Agricultural Congress at Paris in June next, were submitted; and the Secretary stated that the copies intended for the Society of Agriculturists of France would be despatched by the earliest post.

The Board resolved to issue the report free to members of the Society, but that those wishing to have the publication must make application to the Secretary, No. 3 George IV. Bridge, Edinburgh.

VETERINARY DEPARTMENT.—The Secretary intimated that the annual examination of candidates for the Society's veterinary certificate was fixed to take place on Tuesday and Wednesday the 16th and 17th current, between the hours of ten and four; and that the practical examination would be held in Mr Buist's auction mart, Lauriston, on Monday the 15th, at 10 A.M. candidates being required to enter their names with the Secretary on or before the 12th current.

DUMFRIES SHOW, 1878.—The Secretary reported that the competition of thoroughbred stallions had taken place at Dumfries on the 20th ult., when the prize had been awarded to Mr Michael Teenan, Lochside, Dumfries, for his stallion "Loaf Sugar." Letters to the conveners of the counties connected with the show, and to the Provost of Dumfries, as to the nomination of the local committee, were submitted and approved of.

PERTH SHOW, 1879.—The Board approved of letters being addressed to the conveners of the counties in the district of the show in regard to the auxiliary subscription.

AGRICULTURAL EDUCATION.—At a meeting of the Society's Council on Agricultural Education, held yesterday, Mr John Turnbull Smith, C.A., was appointed joint-examiner, with Mr Kenneth Mackenzie, C.A., in book-keeping and accounts. The report of the examinations was afterwards submitted, from which it appeared that the written examinations were held on Monday and Tuesday, and the oral examination to-day, and resulted in eight passing for the diploma, one for first-class, and three for second-class certificates.

## MEETING OF DIRECTORS, 8TH MAY 1878.

*Present*—Sir George D. Clerk of Penicuik, Bart.; Mr Graham Binny, W.S.; Mr Gillon of Wallhouse; Mr Hog of Newliston; Mr Hope, Duddingston; Mr Hunter of Thurston; Mr Jardine of Castlemilk; Mr Johnstone, Dinwoodie Lodge; Mr Kennedy (of Sundaywell), Brandleys; Mr Mackenzie of Portmore; Mr Murray of Dolerie; Mr Mylne, Niddrie Mains; Mr Plummer of Sunderland Hall; Mr Ritchie of Middleton; Captain Tod of Howden; Mr Walker of Bowland, C.B.; Professor Wilson; Dr A. P. Aitken. Mr GILLON of Wallhouse in the chair.

Mr F. N. MENZIES reported apologies for the absence of Admiral Sir William J. Hope Johnstone, K.C.B.; Professor Balfour; Mr Dickson of Corstorphine; Mr Ferguson, Kinnochtry; Mr Irvine of Drum; Mr Martin, yr. of Auchendennan; Mr Maxwell of Munches; and Mr Ralston, Glamis.

OFFICES OF TREASURER AND HONORARY SECRETARY.—At the meeting of the Board on the 3d of April, Mr Walker of Bowland, C.B., and Sir Graham Montgomery, Bart., M.P., were respectively nominated to the offices of Treasurer and Honorary Secretary, rendered vacant by the death of Sir William Gibson-Craig and Sir William Stirling-Maxwell.

Letters were to-day submitted from Mr Walker and Sir Graham Montgomery accepting office, and expressing their deep sense of the compliment done them.

GENERAL MEETING.—The half-yearly General Meeting of the Society for the election of members and for other business was fixed to be held on Wednesday the 5th of June, being the week previous to the opening of the Agricultural Congress at Paris, at which the Directors had instructed the Secretary of the Society to be present.

VETERINARY DEPARTMENT.—The report of the examinations for the Society's veterinary certificate on the 15th, 16th, and 17th ult., was laid on the table, from which it appeared that 26 students presented themselves for examination, and that 19 passed.

DUMFRIES SHOW, 1878.—Letters were submitted from Mr H. Gordon, clerk of supply, Dumfries, and from Mr R. M. Gordon, clerk of supply, Kirkcudbright, sending the names of the gentlemen appointed by the Commissioners of Supply to represent Dumfriesshire and the Stewartry of Kirkcudbright in the General Committee of Management of the General Show to be held at Dumfries in July and August next; and from Mr T. F. Smith, Provost of Dumfries, sending the names of those appointed to represent the town of Dumfries.

GALLOWAY HERD-BOOK.—A letter was read from the Rev. Mr Gillespie, presenting volume I. of the Galloway Herd-Book, containing pedigrees of pure-bred Galloway cattle, published by the Galloway Cattle Society. The Secretary stated that he had in name of the Society thanked Mr Gillespie for the book.

HISTORY OF THE SOCIETY.—The Secretary submitted a letter from Mr Alexander Ramsay, Banff, sending a copy of the contents of a History of the Society written by him, and shortly to be published. Mr Menzies informed the Board that the work contains a narrative of the Society's entire operations in the ninety-five years of its existence, including accounts of the successive General Shows of live stock, &c; that he had read a considerable portion of the book, which has been prepared at great labour from authentic sources; and that he felt sure it would be very interesting, not only to the members of the Society, but to the general public.

The Directors agreed to subscribe for thirty copies of the work.

## MEETING OF DIRECTORS, 5TH JUNE 1878.

*Present*—Lord Polwarth; Mr Ferguson, Kinnochtry; Mr Findlay of Springhill; Mr Gillon of Wallhouse; Mr Maxtone Graham of Redgorton; Mr Hunter of Thurston; Mr Irvine of Drum; Mr Kennedy (of Sundaywell), Brandleys; Mr Plummer of Sunderland Hall; Mr Ritchie of Middleton; Mr Smith, Stevenson Mains; Mr Smith, Whittinghame; Mr Walker of Bowland, C.B. Mr FINDLAY of Springhill in the chair.

Mr F. N. MENZIES reported apologies for the absence of Sir George D. Clerk, Bart.; Sir Alexander Jardine, Bart.; Professor Balfour; Mr Mackenzie of Portmore; Mr Howatson of Dornel; and Mr Martin, yr. of Auchendennan.

The business had reference principally to the subjects to be brought before the General Meeting of this date.

MEETING OF DIRECTORS, 17TH JULY 1878.

*Present*—The Marquis of Lothian, K.T., President of the Society; Sir Alexander Jardine of Applegarth, Bart.; Sir George Douglas Clerk of Penicuik, Bart.; Professor Balfour; Mr Howatson of Dornel; Mr Hunter of Thurston; Mr Mackenzie of Portmore; Mr Murray of Dollerie; Mr Mylne, Niddrie Mains; Mr Ralston, Glamis House; Mr Ritchie of Middleton; Mr Smith, Stevenson Mains; Mr Smith, Whittinghame; Captain Tod of Howden; Mr Walker of Bowland, C.B.; Professor Wilson; Dr A. P. Aitken. The MARQUIS OF LOTHIAN in the chair.

Mr F. N. MENZIES reported apologies for the absence of Mr Dickson of Corstorphine; Mr Ferguson, Kinnochtry; Mr Gillon of Wallhouse; Mr Irvine of Drum; and Mr Kennedy (of Sundaywell), Brandleys.

DEATH OF ADMIRAL SIR W. J. HOPE JOHNSTONE AND MR CARRUTHERS OF DORMONT.—The following resolutions were agreed to:—

1. "That the Directors of the Highland and Agricultural Society of Scotland regard it as a duty to record the deep and sincere regret with which they have received the intimation of the death of Admiral Sir William James Hope Johnstone, K.C.B., and their sense of the valuable assistance which the Society has for so long a time received from him as Convener of the Argyll Naval Fund Committee."

2. "That the Directors of the Highland and Agricultural Society of Scotland record their deep sense of the severe loss occasioned to the Society by the death of Mr Carruthers of Dormont, a member of the Board."

3. "That these resolutions be engrossed in the minutes of the Society, and the Secretary be instructed to transmit a copy of them to Lady Hope Johnstone and Mrs Carruthers of Dormont respectively."

Letters were submitted from Sir James H. Gibson-Craig, Bart.; Mr Young, Keir Mains, on behalf of the Keir Trustees; and from Captain Elliott Lockhart of Borthwickbrae, acknowledging and returning their sincere thanks for the resolutions passed at last General Meeting in regard to the late Right Hon. Sir William Gibson-Craig, Sir William Stirling-Maxwell, and Mr Elliott Lockhart.

PARIS AGRICULTURAL CONGRESS.—Professor Wilson reported that, in accordance with the instructions of the Board, he and the Secretary had gone over to Paris, and had attended all the meetings of the International Agricultural Congress recently held there.

AGRICULTURAL EXPERIMENTAL STATIONS.—Dr Aitken reported that the Agricultural Experimental Stations were progressing satisfactorily, that there was a good braird at both stations considering the drought, and that the effects of the various manures were already visible upon the crop, and would well repay inspection.

MEETING OF DIRECTORS, 6TH NOVEMBER 1878.

*Present*—Lord Polwarth; Mr Graham Binny, W.S.; Mr Dundas of Arniston; Mr Ferguson, Kinnochtry; Mr Gillon of Wallhouse; Mr Hog of Newliston; Mr Hope, Duddingston; Mr Howatson of Dornel; Mr Irvine of Drum; Mr Kennedy (of Sundaywell), Brandleys; Mr Martin, yr. of Auchendennan; Mr Murray of Dollerie; Mr Mylne, Niddrie Mains; Mr Ralston, Glamis House; Mr Ritchie of Middleton; Mr Smith, Stevenson Mains; Mr Smith, Whittinghame; Mr David Stevenson, C.E.; Mr Campbell Swinton of Kimmerghame; Captain Tod of Howden; Mr Walker of Bowland, C.B.; Dr A. P. Aitken. Mr HOWATSON of Dornel, and afterwards Mr GILLON of Wallhouse, in the chair.

Mr F. N. MENZIES reported apologies for the absence of Sir George Douglas Clerk of Penicuik, Bart.; Mr Gilchrist Clark of Speddoch; and Professor Wilson.

Letters were reported from Lady Hope Johnstone, and from Mrs Carruthers of Dormont, acknowledging and returning their grateful thanks for the manner in which the Board saw fit to record the services to the Society of the late Admiral Sir J. William Hope Johnstone, K.C.B., and Mr Carruthers of Dormont.

EDINBURGH SHOW, 1877.—The premiums awarded for mares in foal at the late Edinburgh Show (payment of which had been suspended till birth of foals was certified) were finally adjudged as follow:—1. Laurence Drew, Merryton, Hamilton, for "Sheba;" 2. Representatives of the late Sir William Stirling-Maxwell, Bart., for "Darling III.;" 3 and 4. No award—none of the other animals having produced foals in terms of the regulations.

DUMFRIES SHOW, 1878.—The following reports on implements exhibited at Dumfries and recommended for trial, were read:—

**Self-Binding Reapers.**—The two self-binding reapers of Mr Walter A. Wood, London, and Messrs M'Cormack of Chicago, exhibited and recommended for trial at the Dumfries Show, were tried on the 21st August 1878, on the farm of Liberton Tower Mains, kindly granted by Mr Bryden Monteith. The difference between the two machines is not great; the way in which the grain is carried from the platform on which it is laid after being cut to that part of the machine where it is bound is essentially the same in both machines; the point of difference is in the binding. Mr Wood's machine works with greater force than the other, and, after the sheaves are bound, throws them off, and may shake them to a greater extent than is desirable. The M'Cormack machine merely drops the sheaves as they are bound, the one making room as the next one has been tied; but occasionally they were dropped three and four together. Mr Wood's machine, drawn by two horses, was sent first into the field, which was wheat fully 5 feet high, a strong, thickly-set crop, rather under-ripe as regarded the straw, which severely tested the binders. In going up one side of the field, which had an average gradient of 1 in 10, the wheat was well cut, but the binding was imperfect on account of the crop being fully 6 inches longer than the breadth of the travelling web and elevator. The consequence was that instead of the cut grain falling down its whole length, and being carried forward by the elevators in a parallel condition to the binding platform, it fell diagonally and confused, and the binding arms could not effect a clear separation, so that some of the straw was in two sheaves instead of one. In cutting down the field this condition was made worse by the crop being inclined from the machine. As regards the firmness of the sheaf and the security that the binding wire will not slip, the action of the machine was quite satisfactory. The average draft cutting 4 feet wide up the field was 6 cwt.; average draft across the field (nearly level), 3 cwt. Messrs M'Cormack's machine, which was exhibited by Messrs A. & J. Main & Co., of Edinburgh and Glasgow, was next sent into the field; the wheat was also well cut, but the travelling web and elevators were about 6 inches narrower than the crop was long, and the consequences were the same as in Wood's machine; the heads of the sheaves were very much fixed into each other, and at times three or four were being dragged along with the machine. The fixing of the wire was not quite satisfactory, there being two ties in the band, which occasionally broke at the tying. The average draft cutting 4 feet wide up the field was 6½ cwt.; average draft across the field (nearly level), 5 cwt. Both machines were afterwards tried on a field of barley fully 3 feet high. The M'Cormack machine was tried first, and it proceeded without any hitch, each sheaf falling from the platform in regular order, and without any of the dragging shown when working in the wheat. The trial showed that with elevator and platform broad enough for the length of grain the results would be more satisfactory. The average draft cutting 4 feet wide up the field on a less gradient than the wheat field was 6 cwt.; average draft across field (nearly level), 4 cwt. Wood's machine was next tried in the same field, and did its work in a satisfactory manner. Each sheaf was thrown off separately, firmly bound, and neatly shaped. Average draft cutting 4 feet wide up the field, 6 cwt.; average draft across the field (nearly level), 3 cwt. The wire for tying the sheaves is an objection which will greatly interfere with the introduction of the binders. The great breadth is also inconvenient, rendering the necessity of taking down the machine, or placing it on a lorry, every time it is moved along a narrow road or through a gate. The Committee, while highly appreciating the skill and ingenuity displayed in the construction of both machines, are compelled to state that they do not consider them so sufficiently perfected as to enable them to recommend them in their present state to the farmers of Scotland, but would recommend the Directors to award to the exhibitors of each machine a gold medal, as an encouragement to persevere in rendering the machines more perfect.

**Controllable Rake Reapers.**—The two machines exhibited by Mr Walter A. Wood, London, and Messrs R. Hornsby & Sons, Grantham, were tried at the same time and in the same wheat field as the self-binding reapers. Mr Wood's machine was first set to work, and did the cutting very well, throwing off the crop uniformly, and with a simple mode of altering the rakes, only the machine required to be stopped to do so. Average draft up hill, 4 cwt.; down hill, 2½ cwt. The Committee were highly satisfied with this machine, and would recommend the Directors to award to it a minor gold medal. Messrs Hornsby's machine followed, cutting and laying down the crop in a satisfactory manner. The mechanism for controlling the rakes is simple, being done by the driver of the machine shifting a lever while cutting is going on, enabling him to lay the crop in a continuous swath, or any number of rakes to sweep the platform, so as to make a uniform size of sheaf from an unequal crop. There are other important improvements in this machine, in having a wrought-iron driving wheel, and several of the wearing parts made so that they can be easily taken off and renewed at a small expense. Average draft up hill, 4 cwt.; average draft down hill, 2½ cwt. The Committee were highly satisfied with the working of this machine, especially the controlling of the rakes without stopping the machine, and would recommend the

Directors to award to it a medium gold medal. The platform in both machines folds up for passing through narrow gateways.

*Hay-Lifting Machine.*—This machine (invented by Mr J. B. Taylor, Seton West Mains, East Lothian, and tried there on the 16th of October 1878) consists of a strong platform placed on four wheels, at the height of about 2 feet from the ground. It is constructed so as to be lowered at one end to the ground, so that a rick of hay can be drawn by means of a horse and strong ropes from the ground up the platform, and, after it is placed in position, the lower end of the platform is raised by means of a lever, and the horse is then employed in drawing the machine with the rick to any part of the field, or even a short distance upon the road, to the place where the hay is to be put into the tramp rick or stacked. The trial was not very satisfactory, inasmuch as Mr Taylor had made his ricks too large to be easily managed, they being about 15 or 16 cwt. in weight, whereas 10 cwt. would be as much as could be handled easily. There is nothing new in the mechanical contrivances, but Mr Taylor's invention is ingenious, and his machine might be turned to good account in clearing the small ricks from the fields in an expeditious and satisfactory manner, especially if combined with a proper elevating apparatus at the stack. The Committee do not, however, think that in its present state the invention is of sufficient importance to merit any award.

In accordance with the recommendations in the reports, the Board voted gold medals to Mr Walter A. Wood, London, and to Messrs M'Cormack, Chicago, for their self-binding reapers; a medium gold medal to Messrs R. Hornsby & Sons, Grantham, for their controllable rake reaper; and a minor gold medal to said Mr Walter A. Wood for his controllable rake reaper.

*Awards at Dumfries.*—The Directors confirmed the awards at the Dumfries Show, and the Chairman was authorised to sign orders for the money premiums, which the Secretary was instructed to issue, along with the medals, early next week.

*PERTH SHOW, 1879*—In accordance with the usual practice, it was remitted to the Committee on General Shows to arrange the premiums and adjust the regulations for the Show to be held at Perth next year.

*PROPOSED SHOW AT KELSO, 1880.*—Requisitions for a General Show to be held at Kelso in 1880, signed by proprietors, farmers, and others connected with the counties of Berwick, Roxburgh, Selkirk, and Peebles, were submitted.

After some discussion, in which a proposal was made that Kelso and Inverness should be deleted from the list of towns at which the Shows are held, it was resolved on the motion of Mr Dundas of Arncliffe, seconded by Mr Hope, Duddingston, and supported by Mr Hog of Newliston and other members, to recommend to the next General Meeting to comply with the prayer of the requisition that a Show should be held in the Border district; and it was remitted to the Committee on General Shows to prepare the classes of stock for which premiums should be offered.

*AGRICULTURAL EXPERIMENTS.*—Dr Aitken reported upon the progress made at the agricultural experimental stations. He stated the weather had been very favourable for the experiments, and that the crop of turnips would be ready for taking off the ground in about a fortnight. He hoped that before that time many farmers would visit the stations and witness for themselves the very marked differences existing among the many plots under experiment. It was a subject which well merited their attention from a commercial as well as from a scientific point of view, and it would be a great pity if so very elaborate a series of experiments, performed with so much care and success, should not receive the attention of those in whose interests the Society, at much expense and trouble, had carried them on. Of course it was not to be expected that a first year's series of experiments should show such decided results as those which are to follow, but the results already visible were sufficiently important to engage their attention. The station of Pumphreston was the one which would most certainly be worthy of a visit, as, from the poorer nature of the land, the effects of the various manures is more apparent than at Harelaw, where the land is rich. Plans of the stations and all particulars regarding the manuring of the various plots are to be had on application to the Secretary, or to the land-stewards at the stations—Mr Tod, Pumphreston, and Mr Burns, Harelaw, who will be glad to point out the ground.

*LECTURES ON CHEMISTRY AS APPLIED TO AGRICULTURE.*—Dr Aitken proposed to give a course of twelve lectures during the winter, in the Society's hall, on chemistry as applied to agriculture, which was unanimously accepted by the Directors; and it was remitted to Dr Aitken, Professor Wilson, and the Secretary to make the necessary arrangements.

*AGRICULTURAL EDUCATION.*—The Secretary stated that the examinations for the Society's bursaries took place on the 30th of October, when one student passed for a bursary of £20; two for bursaries of £10 each; and four were awarded £5 each.

*PARIS AGRICULTURAL CONGRESS.*—A letter was submitted from the President of the Society of Agriculturalists of France, sending copies of the French translation of the Highland Society's report on the present state of the agriculture of Scotland, together with bronze medals commemorative of the Congress.

**PRESENTATION OF BOOKS.**—The following works presented to the Society's library were submitted, and thanks voted to the donors:—"Decisions in the Court of Session in Cases connected with Agriculture," presented by the author, Mr J. Still Anderson, F.S.A. Scot.; "The Ayrshire Herd-Book, containing the Pedigrees of Cows, Heifers, and Bulls of the Ayrshire Breed," presented by the Ayrshire Herd Society through their secretary, M James M'Murtrie, Ayr; volume II. of "The American and Canadian Ayrshire Herd Record," by J. D. W. French, editor; and "Some Information concerning the Ayrshire Breed of Cattle," by the same author—both works published by the Ayrshire Breeders' Association, Boston.

**NEW STEAM-PLOUGHING IMPLEMENT.**—A letter was submitted from Mr J. Everad Woods, The Friends' Retreat, York, sending drawings and a notice of Messrs Woods and Whewell's patent turning plough. The advantages claimed for this implement are the saving of land at the headlands, and the delay at each end of the field caused by the ploughman having to change ends and to get into position for the return journey. This is all dispensed with by the turning plough. It enables the plough to be drawn close up to the windlass or engine, and turned quickly at the headland—the ploughman never leaving his seat. The notice states that Messrs John Leeming & Son, North Vale Works, Bradford, are the makers of this implement, and will be glad to show the plough at work at a few days' notice.

**MISCELLANEOUS REMITS.**—It was remitted to the Committee on Office-Bearers to report on vacancies and suggest list for 1879; to the Committee on Essays and Reports to read and report on papers lodged in 1878, and to revise the list for 1879; and to the Committee on District Shows to revise the awards for 1878, and consider the applications for 1879.

**DISTRICT COMPETITIONS.**—The premiums awarded for brood mares in the district of Easter Ross and western district of Fifeshire at the competitions held in 1877 were reported to have been finally adjudged as follow:—District of Easter Ross—1st, Alexander Munro, Ord, Invergordon; 2d, William Douglas, Arboll, Fearn; 3d, said Alexander Munro. Western District of Fifeshire—1st, Hugh Butters, Masterton; 2d and 3d, no award—the mares not having proved in foal.

#### MEETING OF DIRECTORS, 4TH DECEMBER 1878.

*Present*—Sir John Marjoribanks of Lees, Bart.; Mr Graham Binny, W.S.; Mr Dickson of Corstorphine; Mr Gillon of Wallhouse; Mr Hope, Duddingston; Mr Irvine of Drum; Mr Kennedy (of Sundaywell), Brandleys; Mr Martin, yr. of Auchendennan; Mr Mylne, Niddrie Mains; Mr Plummer of Sunderland Hall; Mr Ralston, Glamis House; Mr Smith, Whittinghame; Captain Tod of Howden; Professor Wilson; Dr A. P. Aitken. Mr IRVINE of Drum in the chair.

Mr F. N. MENZIES reported apologies for the absence of the Hon. G. R. Vernon, Auchans House; Sir Alexander Jardine of Applegarth, Bart.; Mr Howatson of Dornel; Mr Hunter of Thurston; Mr Christopher Johnstone, Dinwoodie Lodge; Mr Murray of Dolerie: Mr Ritchie of Middleton; and Mr Walker of Bowland, C.B.

**FINANCE.**—The Secretary, in submitting a statement of the funds at the close of the financial year on the 30th November, reported that the books and vouchers had been placed in the hands of Messrs Mackenzie & Smith, C.A., the Society's auditors.

**BOARD AND GENERAL MEETINGS.**—The Board Meeting for January 1879 was fixed to be held on the 8th, and the anniversary General Meeting on the 15th of that month.

**OFFICE-BEARERS FOR 1879.**—The report by the Committee on Office-Bearers for 1879 was read, and the Secretary was instructed to communicate with the noblemen and gentlemen suggested to fill the vacancies which occur in January next before publishing their names.

**PERTH SHOW, 1879.**—At the meeting of the Board in November last, it was remitted to the Committee on General Shows to arrange the premiums to be offered next year at Perth. The Committee held its meeting on the 13th, and recommended—1. That the Show should, as usual, extend over four days, and be held on Tuesday, Wednesday, Thursday, and Friday, the 29th, 30th, and 31st July, and 1st August. 2. That the premiums for cattle, horses, sheep, swine, and poultry be the same as at Dumfries. 3. That for wool the same sum be given; but that, in place of only one prize of £5 for each kind, there be two—namely, £3 and £2. 4. That the number of premiums for Cheddar cheese (56lb. and upwards) be three, the prizes being £8, £6, and £4. All the other sections of dairy produce to remain the same as at Dumfries. 5. That the Tweeddale Medal be repeated for the best shorthorn animal in the yard. 6. That the two silver cups be repeated for the best stallion and for the best mare for agricultural purposes, all former prize animals being eligible to compete. 7. That the class for four-year-old geldings be altered so as to admit three-year-old animals. After giving effect to the various suggestions, the premium list will stand as follows:—Cattle, £947;

horses, £703; sheep, £402; wool, £15; swine, £93; poultry, £138; dairy produce, £94; implements, £80; Tweeddale Gold Medal, £20; two silver cups, £50; silver medals to breeders of best aged bulls and best stallion, £4, 16s.; extra stock, £40—in all, £2586, 16s., or £986 above what was offered at the Perth Show in 1871.

The report was approved of, and the Secretary was instructed to submit the premium list and regulations to a meeting of members to be held in the Royal George Hotel, Perth, on Friday the 13th current, at one o'clock.

PROPOSED SHOW AT KELSO IN 1880.—The list of classes for the proposed Show at Kelso in 1880, as suggested by the Committee on General Shows, was submitted and approved of by the Board; and it was arranged that the Secretary should lay the list before a meeting of members connected with the district, to be held in the Cross Keys Inn, Kelso, on Friday the 20th current, at one o'clock.

A letter was submitted from Mr Usher, Stodrig, sending the following communication:—"Memorial to the Directors of the Highland and Agricultural Society of Scotland from the Committee of the Border Union Agricultural Society.—A meeting of said Committee was held on Friday, 29th November, in consequence of a paragraph having appeared in the newspapers expressing a doubt of the General Show of the Highland Society being held at Kelso in 1880, and also of Kelso being retained on the list of towns where such meetings shall be held in future years. The meeting was all but unanimous in opinion that such a result would be a great loss and discouragement to the district, and would also have the effect of diminishing the list of members of the Highland Society within its limits. It was contended that the former meetings at Kelso have been highly successful, that it is the centre of an important agricultural district, and that its proximity to the English Border rendered it a most eligible situation. Your memorialists humbly beg the Directors to consider their wishes, and give effect to them, if practicable, by fixing their Annual Show to take place at Kelso in 1880, as proposed. The Committee further resolved to call a general meeting of the Border Union Society to express their opinion on the subject, if necessary, before the General Meeting of the Highland Society in January.—(Signed) For John Ord, Convener of the Committee, John Usher, Secy. Border Union Agricultural Society.—Kelso, 3d December 1878."

The Secretary was instructed to inform Mr Usher that the Directors had resolved to recommend to the next General Meeting to hold the Show at Kelso in 1880, as stated above.

With reference to the preceding resolution, and the discussion which took place at the meeting of the Board on the 6th of November in regard to the proposal that Kelso and Inverness should be deleted from the list of towns at which Shows are held, Mr Martin, yr. of Auchendennan, gave notice of the following motion, to be brought forward at the General Meeting on the 15th of January next:—"That a Committee of members be appointed to consider the whole question of the circuit of the Society's Annual Shows, and to report to the General Meeting in June; also, that pending receipt of this report the Society should delay until the June meeting decision as to place at which the Show of 1880 is to be held."

DISTRICT COMPETITIONS.—The reports by the Committee on District Shows and Cottage Competitions, detailing the awards at the competitions held during 1878, and suggesting the districts for next year, were submitted and approved of.

REPORT ON TRIAL OF IMPLEMENTS.—The grain drill, manure sower, and turnip raisers selected at the Dumfries Show were tried on the 19th of November on the farm of Niddrie Mains, by the kind permission of Mr Thomas Mylne, one of the Directors of the Society. The American grain drill, exhibited and invented by J. G. Rollins and Co., London, was tried first. It is said to be constructed to sow all kinds of grain, as well as beans and peas. It claims to have an advantage over other machines of its kind in the manner in which the quantity of seed to be sown is regulated. This is done by a number of change wheels, graduated to sow a stated quantity, bolted together in a cone. The change is made by sliding a wheel into another wheel on the cone to sow the desired quantity. It has attachments for sowing grass seed and artificial manures at the same time the grain is sown, or each separately, and the force feed distributor delivers the grass evenly and regularly in any position in which it is placed. There is also an indicator on the machine to show the number of acres sown by it. After a lengthened and exhaustive trial with barley, grass seed, and artificial manure, the Committee are of opinion that it is, with some improvement, a useful machine, easy of draft, and well adapted for the purpose; and the Committee recommend the Directors to award the medium gold medal of the Society to the inventors, more particularly for the ingenuity of the force feed for the grain, and the conical arrangement for the regulation of the supply.

The next machine tried was the manure sower invented by Messrs Shaw and Williamson, of Edinburgh and Wishaw, and exhibited by James M'Dowall, Jamaica Street, Glasgow, sole maker. This machine is constructed to distribute either soot or artificial manures in broadcast or in drill. The difficulty with manure distributors



has been that the manure gets clogged at the outlets, but that has been obviated to some extent by this machine. On the top of the hopper box containing the soot or manure there is a shaker or riddle, which is kept in motion along with three revolving spindles and brushes for distributing the manure, the continual working of which is intended to prevent choking in the hopper. The whole is connected by gearing to the driving wheels of the machine. The quantity of ground intended to be covered at a time is about five feet wide. After several turns on a stubble field with artificial manures and soot the machine did not work so satisfactorily as could be wished—the distribution being unequal, especially at the ends, the ground covered by the soot or manure being only about three feet wide. The Committee think that, with some alterations and improvements, it could be made a useful machine, and recommend the inventors to persevere in their endeavours to do so, but in its present state they cannot recommend the Directors to make any award.

The trial of turnip raisers followed, and the single and double drill machines invented and exhibited by Mr Thomas Hunter, Maybole, were set to work on Swedish and yellow turnips, a fair average crop, well set up. Both machines are constructed on the same principle so far as the cutting off the tops and the raising of the turnips are concerned. The framework of the machine is made of wrought iron, and they are guided with two handles like a plough. The single drill machine is drawn like a sleigh, while the double one works on three wheels. The cutter on both machines is double, projecting in front, and catching the neck of the turnip as it moves along the drill, cutting the shaw off. This cutter is fixed in a spring frame, which is balanced or hung so as to rise and fall according to the height of the turnip. The root-cutting is done by a circled steel scoop or knife firmly fixed in the frame passing under the turnip so as to cut the roots. After a lengthened trial on both kinds of turnips, the Committee were satisfied that the single drill machine is simple and cheap, the price being £4, 5s., and the work well done, almost every turnip being cut off at the proper place. The double drill machine did also very fair work, but got more easily clogged with the refuse, and missed cutting a number of turnips in both drills. This may be accounted for to some extent by its working on wheels instead of the sleigh principle. The Committee recommend the Directors to award Mr Hunter the minor gold medal of the Society for the single drill machine on account of his invention of its working on the sleigh principle, which they think is a decided improvement.

The turnip raiser invented by Mr Robert Robertson, Niddrie Mains, was also tried at the same time, but after several turns on the field it was found that some further improvement would be required in the shaw-cutters to make it work satisfactorily.

The Board approved of the report, and confirmed the awards recommended in favour of Messrs John G. Rollins & Co., London; and Mr Thomas Hunter, Maybole.

#### MEETING OF DIRECTORS, 8TH JANUARY 1879.

*Present*—Mr Graham Binny, W.S.; Mr Ferguson, Kinnochtry; Mr Gillon of Wall-house; Mr Hog of Newliston; Mr Hope, Duddingston; Mr Howatson of Dornel; Mr Johnstone, Dinwoodie Lodge; Mr Mylne, Niddrie Mains; Mr Oswald of Dunnikier; Mr Ritchie of Middleton; Mr Smith, Stevenson Mains; Mr David Stevenson, C.E.; Captain Tod of Howden; Lieutenant-Colonel George G. Walker of Crawfordton; Mr Walker of Bowland, C.B.; Professor Wilson; Dr. A. P. Aitken. Mr FERGUSON, Kinnochtry, in the chair.

Mr F. N. MENZIES reported apologies for the absence of Lord Polwarth, Sir Alexander Jardine of Applegarth, Bart.; Mr Dickson of Corstorphine; Mr Irvine of Drum; Mr Kennedy (of Sundaywell), Brandleys; Mr Mackenzie of Portmore; Mr Martin, yr. of Auchendennan; Mr Murray of Dollerie; and Mr Smith, Whittinghame.

**OFFICE-BEARERS.**—The Secretary reported that the names of the noblemen and gentlemen to be proposed by the Directors at the General Meeting on 15th curt. to fill the vacancies in the list for 1879, had been published in terms of the bye-laws.

**GENERAL MEETING.**—The programme of business to be brought before the anniversary General Meeting of the Society on the 15th curt. was arranged.

**NEW MEMBERS.**—The list of candidates for admission as members was submitted, and the Secretary stated that additional names could be received up till the morning of the 15th.

**FINANCE.**—A state of the funds of the Society at 30th November 1878, and abstracts of the accounts for 1877–78, signed by Mr Walker of Bowland, C.B., Treasurer, and Mr Murray of Dollerie, Chairman of the Finance Committee, and by Messrs Mackenzie and Smith, C.A., the Society's Auditors, were submitted, in terms of the bye-laws.

**PERTH SHOW 1879 AND FARM COMPETITION.**—The report of the meeting of members held at Perth on the 13th December was submitted, from which it appeared—*First*, that a discussion arose in regard to the premium for the stallion for agricultural

purposes to travel in the district this season, in the course of which it was suggested that the Directors should increase the amount; and a committee, consisting of Colonel Williamson of Lawers; Mr Gardiner, Chapel Bank; Mr Chalmers, Shielhill; Mr Crawford, Balgarvie; and Mr Bell, Kennacoil, was appointed to correspond through the Secretary with the Directors. *Second*, that Mr Chalmers, Shielhill, in suggesting that the Society should offer £100 in prizes for the best managed arable farms, stated that he believed the experiment could be carried out at an expense of £100 more, and wished that the proposal be strongly recommended to the Directors to inaugurate such a scheme in Perthshire.

In connection with the first subject, the Board had before them a letter from Colonel Williamson in reference to the amount of the premium to be offered for an agricultural stallion, when the Board agreed to fix the amount at £100. In regard to the suggestion by Mr Chalmers, Shielhill, the Board did not see their way to entertain the proposal of offering prizes for best managed farms, the subject having been carefully considered last year, and deemed inexpedient.

**PROPOSED SHOW AT KELSO, 1880.**—The Secretary reported having attended a meeting of members at Kelso on 20th December, when the list of classes for the Show to be held there in 1880 was approved of, subject to the following suggestions for the consideration of the Board:—1st, That a family prize for shorthorns should be given at each Annual Show, the breed being generally diffused; and that prizes of a similar nature be given for the special breeds of different localities—for example, Galloways at Dumfries, Highland at Inverness, &c. 2d, That there should be a special prize for a stallion for agricultural purposes, to travel the district in 1880. 3d, That the family prize for Border Leicesters should include one aged tup, two ewes, two gimmers, two ewe lambs, and two shearling tups—the ewes to have lambs in season 1880, and all bred by exhibitor except aged tup. 4th, That there should be sections for half-bred ewes, half-bred gimmers, and half-bred tups—the latter a cross between a Cheviot ewe and a Leicester tup.

The Board adopted the second and third suggestions; remitted the first to the General Show Committee to decide about family prizes for shorthorns; and rejected the fourth.

**LECTURES ON CHEMISTRY AS APPLIED TO AGRICULTURE.**—The Secretary reported that Dr Aitken, the chemist to the Society, had arranged to give a series of lectures, free, on chemistry as applied to agriculture, in the Society's hall, No. 3 George IV. Bridge—the first lecture to take place on Wednesday the 22d current, at one o'clock. All members of the Society invited to be present.

**PRESENTATION OF BOOKS.**—Letters were submitted from Mr Thomas Dykes, secretary of the Clydesdale Horse Society, sending, by directions of the Earl of Dunmore, a copy of the retrospective volume of the Clydesdale Stud-Book, presented by his Lordship to the members of the above society; and from Mr John Scott, 28 Gloucester Street, Regent's Park, London, sending a copy of his book—"The Farm Valuer"—for the Society's library.

The Secretary stated that he had already thanked the donors in the name of the Society.

**"SCOTTISH CELTIC REVIEW."**—The Board agreed to subscribe for a copy of this work—a new quarterly publication, specially devoted to subjects connected with the language, literature, and antiquities of the Scottish Highlands, by the Rev. Alexander Cameron, Brodick.

#### MEETING OF DIRECTORS, 15TH JANUARY 1879.

**Present.**—The Marquis of Lothian, K.T.; Lord Polwarth; Sir G. Graham Montgomery of Stanhope, Bart., M.P.; Sir John Marjoribanks of Lees, Bart.; Mr Graham Binny, W.S.; Admiral Maitland Dougall of Scotsraig; Mr Findlay of Springhill; Mr Gillon of Wallhouse; Mr Howatson of Dornel; Mr Kennedy (of Sundaywell), Brandleys; Mr Martin, yr. of Auchendennan; Mr Murray of Dolerie; Mr Mylne, Niddrie Mains; Mr Oswald of Dunnikeir; Mr Ralston, Glamis; Mr Ritchie of Middleton; Captain Tod of Howden; Professor Wilson; Dr A. P. Aitken. Sir JOHN MARJORIBANKS, Bart., in the chair.

Mr F. N. MENZIES reported apologies for the absence of Mr Maxwell Inglis of Loganbank; Mr Irvine of Drum; Mr Kenneth Mackenzie, C.A.; Mr Campbell Swinton of Kimmerghame; and Mr Walker of Bowland, C.B.

The business had reference principally to the subjects to be brought before the General Meeting of this date.

# PROCEEDINGS AT GENERAL MEETINGS,

GENERAL MEETING, 5TH JUNE 1878.

Lord POLWARTH in the Chair.

**DECEASED MEMBERS.**—The Chairman said—The first business before the meeting is the following resolution recording the sincere regret of the Society at the great loss they have sustained by the death of Sir William Gibson-Craig :—“That the Highland and Agricultural Society of Scotland record their sincere regret for the great loss they have sustained by the death of the Right Hon. Sir William Gibson-Craig of Riccarton, Bart.; and express their sense of the very valuable assistance which the Society has for a long series of years received from him as treasurer and as a member of the Council on Agricultural Education.” Those who have been in the habit of attending these meetings are well aware of the high services which Sir William Gibson-Craig rendered to the Society; and I am sure that it will be the unanimous expression of opinion that this resolution should be passed. I beg to move that it be adopted. (Applause.) The next resolution I have to propose is, I regret to say, one of a similar nature. It is as follows :—“That the Highland and Agricultural Society of Scotland record in their minutes the deep and sincere regret with which they regard the death of Sir William Stirling-Maxwell of Polloc and Keir, Bart., K.T., M.P., their honorary secretary for the last ten years. They deplore the severe loss the Society and the nation have sustained by the death, at a comparatively early age, of one who had been so closely connected with the Society, and who had rendered so many eminent services to his country as a scholar, a statesman, an agriculturist, and a man of taste.” Sir William was well known to us all as an eminent agriculturist, and as a breeder of stock of the very highest class, by which he rendered great service to his country in the agricultural departments. I need not speak of his other high qualities, but will simply move that the resolution be adopted. (Applause.) I may mention that the picture exhibited in the hall of Sir William’s first-prize Clydesdale mare “Netty,” at the Edinburgh show last year, was presented by him. The next resolution I have to propose is as follows :—“That the death of Mr Allan Elliott Lockhart of Borthwickbrae having been communicated to the Highland and Agricultural Society of Scotland, they resolved to record their sincere regret for his loss, and their sense of his services as a member and a director of the society.” I can speak from my own personal knowledge of the gentleman whose death we here deplore, of the great interest he took in agricultural matters, and the great services he rendered in his district in connection with the Society. I beg to move the adoption of the resolution.

**DUMFRIES SHOW, 1878.**—Colonel Gillon of Wallhouse said—I have to report that the Dumfries Show will take place on the farm of Rotchell, on the 30th and 31st July and 1st and 2d August. The entries closed on the 1st inst., and the following is a comparative statement of the head of stock :—

	Dumfries, 1878.	Dumfries, 1870.
Cattle, . . . . .	357	374
Horses, . . . . .	328	171
Sheep, . . . . .	576	732
Swine, . . . . .	39	76
Poultry, . . . . .	303	402
Dairy Produce, . . . . .	235	130
Implements, . . . . .	2578	1873

No separate entries were required for the premiums offered for the best woolled tups of the Cheviot, blackfaced, Leicester, and other long-woolled breeds, as all the tups entered in these classes for the stock premiums compete. The following gentlemen have been named to act on the General Committee of Superintendence :—*County of Dumfries*—Mr Hunter Arundell of Barjarg, Dumfries; Mr Leny of Dalswinton, Dumfries; Mr Paterson of Brocklehurst, Dumfries; Captain Yorstoun of East Tinwald,

Irvine House, Canobie; Mr Paterson of Terrona, Langholm; Mr Jardine of Dryfeholm, Lockerbie; Mr Glover, Castlemilk, Lockerbie; Mr Seton Wightman, yr. of Courance, Lockerbie; Mr Johnstone Douglas of Lockerbie, Lockerbie; Mr Adam, Closeburn Castle, Thornhill; Mr Moffat, Kirtlebridge, Ecclefechan; Provost Nicholson, Annan; Mr Hunter, Crawfordton, Thornhill; Mr Thomson, M'Cheynston, Dumfries; Mr Dobie, Tinwald House, Dumfries; Mr Wilkin, Tinwald Downs, Dumfries; Mr Kirkpatrick, West Roucan, Dumfries; Mr Brown, Hardgrave, Annan; Mr Stewart, Middlegill, Moffat; Mr Church, Tower of Sark, Canobie. *Stewartry of Kirkcudbright*—Mr Constable Maxwell of Terregles, Dumfries; Mr Murray Stewart of Cally, Gatehouse; Mr Oswald of Auchencruive, Ayr; Mr Maxwell Clark of Culmain, Crockettford, Dumfries; Mr M'Queen of Crofts, Dalbeattie; Mr Walter Scott of Broomlands, Dumfries; Mr Maxwell, yr. of Munches, Dalbeattie; Mr Montgomery Neilson of Queenshill, Ringford; Mr Stewart of Shambellie; Mr Sproat, Brighthouse, Kirkcudbright; Mr Brown, Shiel, New Galloway; Mr James Biggar, King's Grange; Mr Thomson, Blacket, Crockettford, Dumfries; Mr Smith, Ladyland, Kirkbean; Mr Lusk, Howell, Kirkcudbright. *County of Wigtown*—The Earl of Stair, K.T.; the Earl of Galloway, Sir Herbert E. Maxwell of Monreith, Bart.; Sir William T. F. A. Wallace of Lochryan, Bart.; Lieutenant-Colonel J. F. Hathorn of Castlewigg, Whithorn; Mr Stewart of Blairderry, M.P.; Mr Dalrymple Hay, Newton-Stewart; Mr Frederick of Gass, Dumbreddan, Stranraer; Mr M'Whinnie, Airyolland, Portwilliam; Mr Mathews, Whitehills, Sorbie; Mr M'Connell, Glasnick, Kirkeowan; Mr Ralston, Milmain, Stoneykirk, Stranraer; Mr M'William, Craichmore, Stranraer; Mr Nicholson, Glaserton Mains, Whithorn; Mr Cowan, Mains of Park, Glenluce. *Town of Dumfries*—Mr Carruthers, druggist; Mr Clark, merchant; Mr Ewing, druggist; Mr Rennie, brewer; Bailie J. A. Smyth, Bailie John Wood; Bailie R. Wilson; Mr R. B. Paterson, veterinary surgeon; Mr Sloan of Barbeath; Mr Gillies, Provost, Maxwelltown; Mr Craig, solicitor; Mr Luke Scott, draper; Mr Martin, town-clerk; Mr Shortridge, manufacturer; Mr M'Gill, banker; and Mr Johnston, merchant. At a meeting of the General Committee held at Dumfries on the 29th of May, the following sub-committees were appointed:—Admission of Stock—Mr Dudgeon of Cargen, convener; M' Maxwell, yr. of Munches; Mr Kirkpatrick, West Roucan. Admission of Public—Mr Gilchrist Clark of Speddoch, convener; Mr R. B. Carruthers; Mr Clark, Culmain; Mr M'Gill, banker, Dumfries; Mr Kennedy of Sundaywell; Mr Christopher Johnstone; Captain Yorstoun, and Mr Wm. Craig, solicitor, Dumfries. Banquet—Mr Maxwell of Munches, convener; the Duke of Buccleuch; the Earl of Dalkeith; the Earl of Galloway; the Earl of Stair; and the Provost of Dumfries; Captain Maxwell, Terregles; Mr Jardine of Castlemilk; Captain Yorstoun; Mr Wilkin, Tinwald Downs. Ball—Colonel Walker of Crawfordton, convener; the Marquis of Queensberry; Mr Johnstone Douglas of Lockerbie; Mr Johnstone of Halleaths; Mr Oswald of Auchincruive and Cavens; Provost Nicholson, Annan; Mr Macalpine Leny of Dalswinton; Mr M'Gill, banker, Dumfries; Mr Rennie, Dumfries. Forage Yard—Mr Jardine, Dryfeholm, convener; Mr Biggar, King's Grange; Mr Mathews, Whitehills. Police—Sir Alexander Jardine of Applegarth, Bart., convener; Mr Scott of Broomlands; the Provost of Dumfries. Accommodation of Strangers—The Provost of Dumfries, convener; and Town Committee. From the Provost and Town Council of Dumfries the Society is receiving the most cordial co-operation and assistance. The erection of the showyard is being again carried out by Mr Richardson, Annan, who has satisfactorily performed the work for the last eight years. The refreshments in the yard will be purveyed by the Dumfries and Maxwelltown Refreshment Co. (Limited); Thomas Hart & Son, Dumfries; W. R. Sibbald, Maxwell Arms Hotel, Dalbeattie; and John Warner, Edinburgh. The headquarters of the Society will be at the King's Arms Hotel. The yard will be open to the public on Tuesday, 30th July, at 11 A.M., when the judging of stock commences. On Wednesday the President's dinner will be held, and on Thursday there will be a ball in the evening. Further details of the arrangements will be given in the programme, which is being prepared, and which will be duly advertised. Tickets for the Show have been sent to all members in Dumfriesshire, the Stewartry of Kirkcudbright and Wigtownshire. Members residing in other localities will be furnished on application at the office up to the 17th of July. I have further to mention that the gold medal presented by the Marquis of Tweeddale as a memorial of his father will this year be given for the first time for the best shorthorn bull in the yard. Another new feature in the prize list is the addition of two silver cups, value £25 each, to be given for the best stallion, and for the best mare for agricultural purposes—all former prize animals being eligible to compete.

The report was adopted.

**PERTH SHOW.**—Colonel Gillon also reported that the preparatory arrangements for the General Show to be held at Perth in 1879 have been made; that a list of the classes of stock, for which premiums will be afterwards fixed, has been published; and that the support given to the Society on former occasions by the counties embraced in the district of the Show will be repeated.

**CHEMICAL DEPARTMENT.**—Dr Aitken read the following report:—The somewhat

extensive scheme of experiments which received the sanction of the Society at its meeting six months ago has now fairly begun. The manures have been made up with the utmost care, and applied to the soil with great precision, the seed has been sown, and under favourable circumstances will be brairding in a few days. The crop at both stations is for this season turnips. At Harelaw swedes have been planted, and at Pumpherston yellow turnips. Before I shall have the opportunity of addressing you again, the crops shall have been gathered in, and considerable progress has been made in estimating and formulating the results of the first year's experiments. I trust it is not too much to hope that ere that time many members of the Society will have made themselves familiar with the work going on at the stations, by visiting them and submitting them to a careful and critical examination. I shall not weary you with any detailed description of the various experiments. They were fully described at a former meeting, and are recorded in the "Proceedings" of the Society which have recently been published. The general character of the experiments is easily comprehended. It is a series of about forty experiments, to determine how far the *form* in which a manure is applied affects its efficacy as a crop producer. There are various other minor, though by no means unimportant, questions which are being answered at the stations, but that is the great one. A moment's consideration will show that in order to answer that question, the first great requisite is to secure that the manurial treatment of all the plots employed for that purpose shall, as far as possible, differ only in the form of the manure, and in nothing else; for every condition being the same except that of the form of the manure, any difference in the crop must be due to that difference of form. To make up a series of manures so differing and so related is a matter of very considerable nicety and difficulty; but it has been successfully accomplished. Of the 40 rood-plots into which each station has been divided, 35 are taken up with the inquiry just indicated. To these have been applied the various kinds of phosphatic manures, nitrogenous manure, potash manures, guanos, and superphosphates. That is wherein they differ; but they all agree in this, that the manure of each plot contains 40 lb. phosphoric acid, 30 lb. potash, and 10 lb. nitrogen. Hence, whatever differences may be observed in the amount or character of the crop on the various plots must be due, not to any difference in the proportions or total amount of plant food applied to them, but solely to the special form in which it has been applied. Care has been taken also to regulate, as far as possible, the amounts of the other important constituents of plant food—viz., lime, magnesia, and sulphuric acid. In plots 1 to 10, for instance, there are 10 forms of phosphatic manure; 5 of these are dissolved and 5 undissolved; the former contain considerable quantities of sulphuric acid, the latter contain perhaps none. To equalise these as far as possible, and prevent the very different amounts of sulphuric acid from interfering with the experiment, the undissolved phosphates had their 30 lb. of potash made up by the addition of sulphate of potash, the others by the addition of muriate of potash. This kind of compensation will be noticed throughout the various plots. A few slight changes have been introduced into our scheme since last meeting. Plot 33 has been made a duplicate of 14 rather than of 13; and plot 35, on which it was proposed to try the effect of the application of guano in various amounts, has been set apart for two experiments which, under present circumstances, are much more important—viz., a comparison of the fertilizing power of rape cake and decorticated cotton cake, and the comparison of both these with the other forms of nitrogenous manures in plots 13 to 18. The use of rape cake as a manure is well known, but it is only of late that decorticated cotton cake has been obtainable at such a price as to recommend it for use as a manure. It is now selling at a price about equal to its manurial value. It is therefore very desirable that we should test its fertilizing power with that of rape dust and other nitrogenous manures. Plot 36 is divided into 24 small portions, each 1-12th of an acre in extent. Manures were prepared for 22 of these, exactly corresponding to those applied to the rood-plots 1 to 22, and in exactly the same proportion per acre. Plot 36 is thus a kind of miniature station containing duplicate experiments of those put down in the first 22 rood-plots. This is the method of procedure adopted by the Aberdeenshire Agricultural Association at their stations, and I believe with very satisfactory results. A recent visit which I paid to one of these stations at Cluny impressed me very favourably with the suitability of such small plots for the performance of accurate, reliable experiments; and I am inclined to attach very considerable importance to the results of the experiments conducted in plot 36. Plot 38 has been used for the purpose of making two experiments with sulphuric acid. The manure is sulphate of lime largely impregnated with free sulphuric acid, and, like plots 31 to 34, is applied in two proportions, the one-half of the plot receiving a double dose of the manure. This plot will serve to show how much of the action of dissolved manure is due to the sulphuric acid which they contain. Plots 39 and 40 are set apart for continuous white crops, and were sown with barley—at Harelaw on the 10th, and at Pumpherston on the 11th of April. Thick sowing was adopted at the former, and thin sowing at the latter station. The seed was the same in both, and the land received no manure for this crop. These two plots will be split in two, and cropped similarly during the whole

term of the experiments, but will receive four different kinds of manurial treatment. The small charts which have been prepared give an accurate plan of the two stations, and a statistical account of the experiments carried on at each plot, and may be had by members on application to the Secretary, or to Mr Tod, Pumphreaston, and Mr Burns, Harelaw, who are in immediate charge of the respective stations. I have simply to add that the manures were applied to the plots and the seeds sown under my immediate superintendence, and under circumstances which were exceedingly favourable, and that every precaution was adopted to secure the success of the experiments. In this matter I have been much assisted by the energy of the practical agriculturists in charge of the stations, and especially by the exceeding care and attention bestowed by Messrs J. & J. Cunningham in preparing the uncommonly intricate series of manures required for our experiments.

**AGRICULTURAL EDUCATION.**—Major Hunter of Thurston reported that the annual examination of candidates for the diploma and certificates in agriculture took place on the 1st, 2d, and 3d of April, when fifteen gentlemen presented themselves, and that the following passed:—*For Diploma*—John Henderson, East Elrlington, Haydon Bridge; Primrose McConnell, Castle Mains, New Cumnock; William McCracken, Blackhall, Kirkwhelpington, Newcastle-on-Tyne; John Edward Nonnen, Degeberg, Lidkoping, Sweden; Robert Wallace, Auchenbrack, Tynron, Thornhill; John Bramwell, Blackaddie, Sanquhar; Robert Carr, Felkington, Norham, Berwick-on-Tweed; John Johnstone Sharp, Leaston, Upper Keith. *For First Class Certificate*—Wm. Malcolm Anderson, Deuchrie, Prestonkirk. *For Second Class Certificate*—John Malcolm Aitken, Crieff; James Gillespie, Half Mark, Corsock, Dalbeattie; James Spencer Innes, 22 Fettes Row, Edinburgh. Major Hunter further stated that the Society's prizes given in the Agricultural Class at the University of Edinburgh were awarded, after a special examination, as follow:—1st (£6), John Craig, Perthshire; 2d (£4), John E. Nonnen, Sweden.

**VETERINARY DEPARTMENT.**—In the absence of Captain Tod of Howden, Mr Walker of Bowland said—I have to report that the examinations for the Society's veterinary certificate took place on the 15th, 16th, and 17th April, when 26 students presented themselves for examination, and that the following 19 gentlemen passed:—John Blench, Thornley, Durham; Frank Bottomley, Oldham; Wm. Henry Bridge, Oldham; David Crabb, Panbride, Carnoustie; Joseph Darbyshire, Wigan; Thomas J. W. Dollar, London; John Thomas Gregory, London; John H. Kirk, Edinburgh; Edward Kitchen, Doncaster; John Malcolm, Woodside, Montrose; John G. Muir, Mauchline; John O'Riordan, Limerick; Henry E. Poole, Toronto; William S. Pringle, Newcastle-on-Tyne; Adam Sievwright, Keith; J. Simpson Walker, Kendal; Patrick Walsh, Ballinrobe, Ireland; George H. Watkins, Tredegar, Monmouth; Thomas P. Young, Edinburgh. The two medium gold medals, given to the students who passed the best practical and the best general examination, were awarded to John Malcolm, Montrose, for best general examination, and Frank Bottomley, Oldham, for best practical examination.

**PARIS AGRICULTURAL CONGRESS.**—Mr Irvine of Drum laid on the table a copy of the report on the Agriculture of Scotland, which is to be presented to the Paris Agricultural Congress. The volume, which is handsomely got up, contains a geological map and photographs of various kinds of prize stock.

The SECRETARY then read the following letter:—

“Yester, Haddington, 4th June 1878.

“Dear Mr Menzies,—My attention has been called to the report on the present state of agriculture in Scotland prepared by the Highland Society for the International Agricultural Congress at Paris and particularly to the article on ‘Farm Machinery.’ At page 150 of the report there is a paragraph as follows:—‘The late Marquis of Tweeddale, with the assistance of Mr James Slight, engineer to the Highland Society, then commenced a series of experiments with steam-power at Yester, and these promised to result successfully, the land being well ploughed by steam, but the Marquis having been appointed soon afterwards to the Governorship of Madras, these important and interesting trials, though incomplete, had to be abandoned. This paragraph not being in strict accordance with the facts as known to me, I venture to suggest that it should be expunged from the report. The following I believe to be correct:—The late Marquis of Tweeddale, with the assistance of Mr Robert Bridges, engineer, North Berwick, in 1848, after his return from India, commenced a series of experiments with steam-power at Yester, and these resulted successfully, the land being well ploughed by steam; but the Marquis having discovered that the deep ploughing which he wished to carry out could be more cheaply done by horse-power, the important and interesting trials were abandoned. I may mention, in connection with this subject, that the last appearance in public which my father made was at a trial of a new set of steam ploughing and cultivating machinery, by Messrs John Fowler & Co., of Leeds, on the farm of Coalston Mains, and it was his intention to have had a plough constructed on

a new principle, specially adapted for deep ploughing. He was making arrangements about it when he met with the accident which resulted in his lamentable death. I have also to call attention to the paragraph at the bottom (page 156 of the report), which states that the first drain tile-making machine devised by the Marquis of Tweeddale and Mr Ainslie was brought out at Perth Show of the Highland Society in 1836. This statement is also not quite accurate. The tile machine made by my father was the first machine constructed, and Mr Ainslie had nothing to do with it. The original machine is still at Yester. Mr Ainslie, I believe, some years afterwards constructed a tile-making machine. As it will not be in my power to attend the meeting of the Society to-morrow, may I ask you to bring this letter before the Society in connection with the report.—Yours truly,

(Signed) "TWEEDDALE."  
 "F. N. Menzies, Esq., Secretary,  
 Highland and Agricultural Society."

Mr WALKER of Bowland said that they were much indebted to Lord Tweeddale for calling attention to the inaccuracies; and he thought it would be desirable that they should have his Lordship's letter printed and appended to the report, so that the correction would go to the Paris Congress along with the report.

Captain KINLOCH, yr. of Gilmerton, said he thought it would be well to appoint a special committee to consider the matter, so that the correction should not go forth merely as a statement by Lord Tweeddale, but as indorsed with the approval of the Directors.

Mr WALKER of Bowland said he understood that the writer of the article admitted that he was in error.

The SECRETARY said he believed that Mr Melvin admitted the mistake, so far as he had mentioned Lord Tweeddale's connection with steam cultivation before he went to India. It should have been after he came home.

Captain KINLOCH said that the statement by Lord Tweeddale could be taken into consideration along with any additional information that might be given by the writer of the article. He felt that it would be putting Lord Tweeddale in an invidious position unless the Directors expressed some opinion.

Mr WALKER of Bowland said it appeared to him that the course proposed by Captain Kinloch was scarcely practicable. Were the Directors to hold a court of review to see whether Lord Tweeddale or Mr Melvin was in error? When they announced their decision it might be disputed by one or other of the parties. He thought it better to let Lord Tweeddale's statement go along with Mr Melvin's paper. It was hardly a matter for the Directors to decide who was right and who was wrong.

The CHAIRMAN said that the correction could hardly now be appended to the book.

Mr WALKER of Bowland said that Mr Menzies might communicate a copy of the letter to the Congress as a statement by Lord Tweeddale.

Captain KINLOCH asked if the meeting would approve of communicating with Lord Tweeddale and asking him what course he would wish to be pursued.

Sir JAMES GARDINER BAIRD of Saughton Hall, Bart., said that that was the first time that he had heard of the matter; but he did not think it would do to publish the letter without some comment. He understood from some of those present that Lord Tweeddale was perfectly right, and he did not think that they should put his Lordship in the position of objecting without either holding that he was right and their report wrong, or *vice versa*. They ought to ascertain who was in the right and who was in the wrong.

The CHAIRMAN said it was a question how far they should interfere in the matter. He was not aware that the report did any injustice to Lord Tweeddale's reputation as an agriculturist; but at the same time he thought they might communicate with Lord Tweeddale to see what his wishes were. If any public correction was given, it would need to be through the "Transactions" of the Society.

Mr SMITH, Whittinghame, said that the report did an injustice to a man of considerable experience, and who had done a great deal for steam cultivation—namely, Mr Bridges, North Berwick. He, beyond all others, was the practical man in carrying it through with the Marquis of Tweeddale, and he was sure that if the Marquis had a voice in the matter he would wish Mr Bridges' name connected with his efforts. He himself had heard the Marquis speak of what Mr Bridges had done, and he thought that injustice was done to him in the report.

The CHAIRMAN said that the only course would be for the Secretary to communicate with the Marquis of Tweeddale in regard to the matter.

Mr MAXTONE GRAHAM of Redgorton said that the Secretary could also write to Mr Melvin, who admitted that he had been misinformed.

Captain KINLOCH said that the report dealt with the history of the steam-plough, and it was a very important thing that that history should not be given to the world if any part of it was challenged. The report had been distinctly challenged, and if it was not

amended it did injustice not only to the Marquis, but also to a gentleman who worked along with him. He thought that the Directors ought to take that part of the report into their consideration, and, if they thought fit, amend it according to what they considered to be matter of fact. He would be satisfied if the Secretary communicated with Lord Tweeddale, and ask what he wished to have done.

Mr MYLNE, Niddrie Mains, thought that Mr Melvin would correct the report as Lord Tweeddale desired, or nearly so.

Mr McCULLOCH, Denbie Mains, said that the Directors had already endorsed the opinions of the writers; and there were others beside Lord Tweeddale who might bring objections against certain parts of the report.

The CHAIRMAN said that, considering the great rapidity with which the papers were got up, he thought it did very great credit to the writers of them.

The SECRETARY read the following abstract from the preface to the report:—"While the Society adopts and is responsible for the general details given, it must not be considered as identifying itself with all the opinions expressed by the different contributors."

Mr SWINTON, Holyn Bank, said he thought that in justice to the late Marquis of Tweeddale, and particularly to Mr Bridges, who carried out the work with him, a correction should be made of the statements in the report. Mr Slight's name was associated with that of the Marquis; and it was hard for Mr Bridges to have another man's name thus put forward instead of his own. Mr Ainslie was also conjoined in regard to the tile machine, although he had had nothing to do with it until several years after.

It was then agreed that the Secretary should write to Lord Tweeddale in order to ascertain his wishes regarding the correction of the report.

(It was afterwards arranged that the following be appended to the report:—"Errata. MARQUIS OF TWEEDDALE'S STEAM-PLOUGH. -With reference to a discussion which took place at the General Meeting of the Society in June as to the late Marquis of Tweeddale's steam plough, the writer of the portion of the report relating to the above recollects perfectly Mr Slight telling him the Marquis of Tweeddale was consulting him as to steam cultivation; and there is proof of his being repeatedly at Yester. The engines and plough were made, however, for the Marquis by Mr Bridges, North Berwick, after the Marquis' return from India. The notice of his Lordship's tile-making machine, as corrected in the proof, but not given effect to by the printer from want of time, should have read thus:—"The first drain tile-making machine devised by the Marquis of Tweeddale was brought out at the Perth Show of the Society in 1836. This was followed by Mr Ainslie's and others."")

The SECRETARY stated that the meeting of the Paris Agricultural Congress would take place on Tuesday, and that as he would be present, he would be prepared to give information to any of the members who were to attend.

CONTAGIOUS DISEASES (ANIMALS) BILL.—The SECRETARY stated that the following gentlemen were appointed a deputation to proceed to London on the occasion of the second reading of the bill:—Mr Dundas of Arniston; Mr Oswald of Dunnikier; Mr Mylne, Niddrie Mains; Mr Melvin, Bonnington; and Mr Clay, Kerchesters.

TRANSACTIONS.—Mr IRVINE of Drum laid on the table Vol. X. (fourth series) of the "Transactions" of the Society.

A vote of thanks was then given to the Chairman, and the proceedings terminated.

## GENERAL MEETING, 15TH JANUARY 1879.

The Most Noble the MARQUIS OF LOTHIAN, K.T., President, in the Chair.

THE LATE PRINCESS ALICE.—The Marquis of LOTHIAN said that the first duty he had to perform to-day was to propose an address of condolence with Her Majesty on the late bereavement she had suffered. The following was the address which it was proposed to be adopted:—"Unto the Queen's Most Excellent Majesty,—Most Gracious Sovereign,—We, your Majesty's most dutiful and loyal subjects, the Highland and Agricultural Society of Scotland, in general meeting assembled, beg leave humbly to lay before your Majesty the expression of our sincere and heartfelt condolence in the great sorrow which has recently visited your Majesty through the death of your beloved daughter the Princess Alice, Grand Duchess of Hesse. Amidst the affliction caused to your Majesty by this event, we humbly trust it may prove consolatory to your Majesty to know how deeply the nation has felt and appreciated the great excellences



of Her Royal Highness' character, and also to know that, in all that touches the happiness of your Majesty, you have the loyal affection and sympathy of all your people. Sealed with the corporate Seal of the Society, and signed in its name by the Most Noble, Schomberg Henry, Marquis of Lothian, K.T., President of the Society—LOTHIAN, President. [Seal.] Highland and Agricultural Society's Hall, Edinburgh, 15th January 1879." In moving the adoption of the address, the noble CHAIRMAN said he would make a few remarks on the subject. It had been the custom of this Society to address her Majesty on all occasions which had touched her happiness either for weal or for woe; and he thought that although some time had now elapsed since the sorrowful event to which he had referred had taken place, it would still become this great Society, representing Scotland as it did—both by numbers and influence, because its members were drawn from all parts of the country, north and south, east and west—it would still become them to present an address. He humbly thought that it would be also gratifying to her Majesty, as it would show the feeling that animated the whole people of Scotland as represented by this great Society. It was not necessary for him to say anything as to the character of the Princess Alice, as her high qualities had been recognised in every address that had been sent to the Queen. The country had seen and acknowledged her great tenderness and affection towards her father and mother, her devotion to her brother, her husband, and children. In every position of distress and difficulty in which the family had been placed she had been amongst the first, if not the first, to console and assist them. They knew very well the great sense of duty which animated her Royal Highness not only in her public but in her private capacity. She always showed a desire to relieve suffering wherever it was. She did not confine her exertions to the places with which she was connected, but wherever she might be she found out her duties, and there she fulfilled them. In reply to the loyal addresses sent to the Queen her Majesty had given an answer which must have touched the hearts of all who had read it. It was a happy peculiarity of the relations between the Throne and the subjects in this country that they felt a mutual interest in all that concerned the one and the other; and he ventured to say that the Queen's letter had shown that amid all the affliction and sorrow that she felt she was ready to feel for the distress of her people. He moved that the address be adopted.

The motion was unanimously agreed to.

**THE LATE MARQUIS OF TWEEDDALE.**—The Marquis of LOTHIAN said he was sorry that the next duty before him was also one referring to a loss sustained by the Society. He would read the following excerpt from the Minutes of the Directors:—"They resolved to record in the Minutes their deep regret for his loss, and their sense of the obligations which the Society owed to him as a Vice-President, and for the interest he took in its welfare. That the Meeting direct that a copy of this resolution be transmitted to the Marchioness of Tweeddale, with their respectful condolence under so painful a bereavement." The noble Chairman went on to say that it was but a very short time since they as a Society had to lament the loss of the Marquis of Tweeddale. The late Marquis had succeeded to his father only for a short time, but during that very short time he had so acted as to show how much he felt the responsibility of his position; and he had observed it mentioned in one of the London newspapers with reference to him that the loss of such a man was a national loss. That was what he was as the Marquis of Tweeddale. But this Society regarded him as being their Vice-President, and if it had pleased the Almighty to spare him longer he would probably have taken a position similar to that which his father filled so long, and with so great advantage to the agriculture of Scotland. In the capacity of Vice-President of the Society he showed great interest in it, but he also recognised the position that his father had taken up with reference to agriculture by arranging for a gold medal to be presented to the Society for the best shorthorn or Border Leicester at the Shows; and in other ways he took great interest in the welfare of the Society. He moved that the resolution which he had read be approved of.

This was agreed to unanimously.

**DECEASED MEMBERS.**—The Marquis of LOTHIAN said he was sorry to say that the third duty he had to perform was a painful one. It was to read the names of some of the more prominent members of the Society who had been removed by death. Since the last Anniversary Meeting they were as follow:—The Earl of Lauderdale; the Earl of Northesk; Lord John Frederick Gordon, Halliburton; the Right Hon. Sir William Gibson-Craig, Bart.; Sir James Milne Innes, Bart.; Sir George Grant Suttie, Bart.; Sir Andrew Cathcart, Bart.; Sir John P. Orde, Bart.; Admiral Sir William J. Hope Johnstone, K.C.B.; General Sir John Campbell, C.B.; Mr Newell Burnet, Aberdeen; Mr Gordon of Cluny; Mr Grant of Kincorth; Mr Elliott Lockhart of Borthwickbrae; Mr Stewart of Southwick; Colonel Fraser Tytler of Aldourie.

**NEW MEMBERS.**—Ninety-one new Members were then balloted for and elected.

**NEW OFFICE-BEARERS.**—The following noblemen and gentlemen were elected to fill the vacancies in the list of office-bearers:—*Vice-Presidents*—The Duke of Athole, K.T.; the Earl of Strathmore; the Earl of Breadalbane; the Earl of Rosslyn. *Ordinary*

*Directors*—Sir Michael R. Shaw Stewart of Blackhall, Bart.; Sir Alexander Muir Mackenzie of Delvine, Bart.; Mr Dingwall, Ramornie; Mr Hendrie of Larbert; Mr Hugh Kirkwood, Killermont; Mr Ross, Bachilton; Mr Seton Wightman of Courance. *Extraordinary Directors*—The Right Hon. W. Patrick Adam, M.P.; the Hon George Waldegrave Leslie; Sir John Ogilvy of Inverquharie, Bart.; Sir Robert Menzies of Menzies, Bart.; Sir Robert Anstruther of Balcaskie, Bart., M.P.; Mr Whyte-Melville of Bennochty; Colonel Drummond Moray, M.P.; Mr Richardson, Lord Provost of Perth; Mr Smythe of Methven; Mr Young of Cleish.

ACCOUNTS FOR 1877-78.—Mr MURRAY of Dollerie laid on the table the Accounts for 1877-78, which were approved.

ARGYLL NAVAL FUND.—Admiral MAITLAND DOUGALL, in presenting the Accounts of the Argyll Naval Fund, said he was sure they must all lament the death of the gallant old Admiral who watched over the Fund so carefully. At present there were three vacancies. The invested Funds amounted to £5841, and there was a balance in Bank at 30th November last of £71, 19s. 10d. The report was adopted.

DUMFRIES SHOW, 1878.—Colonel GILLON of Wallhouse—Before proceeding to move the votes of thanks to the Local Committee and others, perhaps you will permit me, on the part of the Directors, to congratulate the Society on the success and very flattering result which attended their Show held at Dumfries in July last. As compared with former shows, it was one of the most successful the Society has ever held, the entries of stock and implements being highly satisfactory. On reference to the accounts, you will observe that the amount collected during the Show was £3308, the largest sum ever drawn on any occasion, except at Edinburgh and Glasgow, and that there will be a probable surplus of £300. In the districts more immediately concerned, a degree of interest was excited fully equal to what the most zealous supporters of the Show could desire, and which, the Directors confidently trust, will issue in the most beneficial results to the district connected with the Show. As the meeting is aware, the Society is under deep obligations to the Local Committee and their Chairman, Mr Maxwell of Munches, for the zealous discharge of their duties; to the Commissioners of Supply for their liberal subscription, and to the Provost and Magistrates of Dumfries for their hearty co-operation in forwarding the objects of the Show. I have therefore to move—“1. That the thanks of the Society be tendered to the Right Hon. the Earl of Galloway, Vice-President of the Society, for the efficient services rendered by his Lordship, particularly in discharging the duties of Chairman at the president's dinner, in the unavoidable absence of the Marquis of Lothian. 2. That the thanks of the Society be given to the Commissioners of Supply for Dumfriesshire, the Stewartry of Kirkcudbright and Wigtownshire for the liberality with which the auxiliary fund was provided. 3. That the thanks of the Society be tendered to Wellwood Herries Maxwell, Esq. of Munches, Convener of the Local Committee elected by Dumfriesshire, the Stewartry of Kirkcudbright and Wigtownshire, for his unsparing exertions in furthering the success of the Show, and to the individual members of that committee for their very efficient co-operation in carrying into effect the various arrangements of the meeting. 4. That the thanks of the Society be given to Thomas Ferguson Smith, Esq., Provost, and to the other members of the Town Council of Dumfries, for the sum voted in aid of the auxiliary fund, and for their very efficient co-operation in the duties devolving upon them.” Adopted.

The Marquis of LOTHIAN said he was sure that the meeting would agree with every word that had been said by Colonel Gillon, and that they would give a unanimous vote of thanks to the Local Committee for their services.

PERTH SHOW, 1879.—Colonel GILLON of Wallhouse then said—I have to report that the instructions of the General Meeting of the Society in January last in regard to the Perth Show have been carried into effect, and that the arrangements, so far as yet completed, are in a satisfactory state. The Show has been fixed to be held on the 29th, 30th, and 31st July, and 1st August. The premium list and regulations, as proposed by the General Show Committee and approved of by the Directors, were submitted to a meeting of members held at Perth on the 13th of December, and again to a meeting of the Board on the 8th inst., when premiums were agreed to to the amount of £2636, or £1036 above what was offered at Perth in 1871. The counties embraced in the district of the Show—the eastern division of Perthshire, western division of Forfarshire, Fifeshire, and Kinross-shire—have all agreed to liberal voluntary assessments in aid of the auxiliary fund; and at a meeting of the Perth Town Council on the 6th inst., it was agreed to grant the use of the western division of the South Inch for the showyard on the same terms as formerly. In place of a premium for a thorough-bred stallion, the Society has on this occasion resolved to offer a prize of £100 for a stallion for agricultural purposes to travel this season in the district of the Show. The competition will take place either in Glasgow or at Perth, and will be in charge of a committee, consisting of Colonel Williamson of Lawers; Mr Gardiner, Chapel Bank; Mr Chalmers, Shielhill; Mr Crawford, Balgarvie; and Mr Bell, Kennacoll. Mr Melville

Jameson, Perth, who has acted as local secretary on former occasions, has again kindly agreed to act in that capacity.

Colonel WILLIAMSON of Lawers said that the members of the committee quite approved of all the arrangements that had been made in regard to the Perth Show, with one exception. Before he took exception to the arrangements he wished to express his thanks to the Directors of the Society for the courteous manner in which they had received the application that had been made to them. They had increased the premium for the Clydesdale stallion from £50 to £100; but he hoped that that amount would be increased to £150; and he moved accordingly.

Mr GARDENER, Chapelbank, seconded the motion.

Mr HADDON, Honeyburn, Hawick, suggested that the matter be remitted back to the committee.

On a division, Colonel Williamson's motion was carried by a majority.

PROPOSED SHOW AT KELSO IN 1880.—Colonel Gillon then said—I now rise to bring before the meeting an application made to the Directors for a General Show to be held at Kelso in 1880, for a district comprising the counties of Berwick, Roxburgh, Selkirk, and Peebles. This application has been subscribed by our noble President, the Marquis of Lothian, and about 120 of the principal landed proprietors and extensive farmers connected with the Border counties. When laid before the Directors on the 6th of November, some discussion took place, in the course of which a proposal was made that Kelso and Inverness should be deleted from the list of towns at which shows are held. The Board, however, resolved to recommend to this meeting to comply with the application, and it was remitted to the Committee on General Shows to prepare the classes of stock for which premiums should afterwards be offered. Publicity having been given to the proposal in the newspaper report of the meeting, the attention of that distinguished local association, the Border Union Agricultural Society, was called to the subject; and its committee sent a memorial to the Directors of the Highland Society begging them to consider their wishes, and give effect to them by fixing the Show for 1880 to take place at Kelso. So keenly did the committee of the Border Union take up the subject, that they resolved to call a general meeting of their society to express their opinion, if necessary, before this meeting. The memorial referred to was before the Directors on the 4th of December, when the Secretary was instructed to inform the Border Union Society of the resolution come to, and that the list of the proposed classes (which had been prepared by the General Show Committee, and approved of by the directors) would be submitted to a meeting of members to be held at Kelso. At the same Board meeting, Mr Martin gave notice of the motion which will be found in the programme before you. The meeting at Kelso took place on the 20th December, when the list which I have now to lay before you was approved of, with some suggestions, which have since been disposed of by the Directors of this Society, or remitted back to the General Show Committee. At that meeting a strong desire was expressed in conformity with the memorial of the Border Union Society. Having now briefly noticed the proceedings which have taken place in regard to the application from the Border counties, I do not wish to occupy the time of the members further than to express a hope on the part of the Directors that the meeting will approve of the Show of 1880 being held at Kelso, and that it be remitted to them to make the necessary arrangements.

Mr OSWALD of Dunnikier seconded the motion. He said they all knew that Kelso was one of the most important of the agricultural districts in Scotland, and they had had shows there which were of a highly satisfactory character.

Mr MARTIN, younger of Auchendennan, moved—"That a committee of members be appointed to consider the whole question of the circuit of the Society's Annual Shows, and to report to the general meeting in June; also, that, pending receipt of this report, the Society should delay until the June meeting decision as to place at which the Show of 1880 is to be held." He said he regretted that his last official act should have the appearance of being at variance with the decision of the Directors, more especially as he had always found them ready to listen to any suggestions he might make to them in regard to what he considered to be for the advantage of the Society. But this was a question on which there was a great difference of opinion; and he ventured to ask the meeting to say on what rule in the future they should go in deciding the circuit of the shows. In any remarks he had to make he would endeavour to avoid personalities, and if those who differed from him had pursued a different course from what they had done it might have led to a better settlement of the matter. Those who held similar views with himself had received very rough treatment, and he quoted several extracts from statements in the newspapers as illustrations of that. One acute observer had discovered that one of the supporters of his (Mr Martin's) views was actuated by the reason that there was a horse at Glamis known as Lord Beaconsfield. He did not know what argument could be founded on that fact. Possibly the gentleman might be an admirer of the noble Earl, and think that as that statesman had a triumphant policy and a large majority, it would be a bad thing to have it connected in any

way with this motion. The unfortunate proposer of the motion had one daughter and two grandsons of a horse named Gladstone, but they lacked size and were not well put together. But to come to more serious matters, the supporters of this movement were of opinion that it would tend to increase the usefulness of the Society and its importance. They believed that it would be for the advantage of the members of the Society, that it would enlarge the Shows, improve them in many respects, and bring them within a more reasonable distance of the great bulk of the exhibitors. He did not deny that it might benefit exhibitors as a class, but he would ask the meeting who was to take up a matter of this kind except those who were to benefit by it? He did not think that on that ground their opinion ought to be scouted. He supposed that the southern papers would not have spoken out so strongly in the matter if it had been proposed to drop out Aberdeen instead of Kelso; and they would not have found the heather on fire if the decision had been to give up the Show at Dumfries instead of Inverness. Why his friends should have spoken so strongly against him as to stopping the show at Inverness he did not know, because his feeling was very much the other way. One of those who opposed him had also condemned Kelso, which he said with its 4000 inhabitants was worthy of consideration for nothing but an old abbey. What he and his supporters said was that it was for the best interests of the members of the Society in different parts of the country that the matter should be thoroughly investigated. He did not base his objection on any particular place; but he wanted them to take up the general question and investigate it. The subject was a very wide and important one, and the present arrangements were entered into at a distant period, when the circumstances were not altogether the same as now. He therefore thought he might reasonably ask them to reconsider the whole subject again. He only asked for inquiry in the meantime, and he held that objection on the part of any one was an admission that the cause which he advocated was one that would not bear investigation. The wonderful number of proposals they had had within a few weeks fully warranted him in saying that there was a considerable amount of dissatisfaction in the Society, and a desire that the matter should be attended to. They had had proposals to cut out both Inverness and Kelso, and some suggested that there should be no Shows except at Perth, Edinburgh, Stirling, and Glasgow. There was a very large section of the members who did not consider it expedient to exclude Inverness or Kelso from the list, but were in favour of going more frequently to Edinburgh and Glasgow, and the other places in the intermediate years. He thought that if a committee were appointed fairly and fully to consider the subject, and report to a future meeting, they would be in a better position to come to a correct finding on the subject than at present. His motion was simply that inquiry should be made, and pending the report of the committee, he thought they should delay deciding as to where the Show of 1880 should be held. One very grave objection to going to Kelso in 1880 was that the Royal Society were to hold their Show at Carlisle the same year. It seemed to him that it would not be advantageous that the two Societies should have their Shows within a few weeks of each other. The Royal Show being a novelty, it would no doubt draw a great number, and people would not be able to get two holidays. The result, he believed, would be a serious loss of gate-money to this Society. As to the necessity of going to outlying districts to give an impetus to agriculture and to get new members, he did not think that such arguments were relevant, but they could come very properly before the committee, if they appointed one. He concluded by again proposing his motion.

Mr JOHN HENDRIE of Larbert seconded the motion.

Lord POLWARTH said he regretted that it had fallen to him to speak on this question, and he might be permitted to say that the gentleman who proposed the motion referred to motives which had been imputed to him and other parties, and had read statements in editorial remarks in local papers, for which he did not think any member of the Society was in any way responsible. For his own part, and speaking on behalf of his brother Directors, and on behalf of the Society generally, he was quite sure that all of them believed that Mr Martin had acted on motives which were honourable and upright, and with a view to the best interests of the Society, according to his way of thinking. But speaking on behalf of the Kelso district at the present time, he thought it would be a very great misfortune were the Show not to be held there. Mr Martin had made some remarks disparaging to that town and the Border districts which were scarcely worthy of notice. Kelso was certainly a very large centre of an important district, and on that ground he thought that the holding of the Show there should not be dropped. The past Shows held at Kelso had not proved such failures as to warrant any change. He believed that the Shows there had been eminently successful, and he had seen a statement not long ago showing that the receipts at Kelso were not very far behind those at some large towns. The Shows at Kelso happened to give an opportunity not only to people in the vicinity to visit it, but also to people from the northern parts of England. He hoped that the general meeting would approve of the resolution of the Directors that the Show should be continued at Kelso. It was proposed by Mr Martin to appoint a committee to consider,

in the first instance, the deleting of certain towns from the number of those included in the list, and on the other hand that the committee should have the power of adding certain towns, which would be changing the system altogether. In his own opinion, and he believed in the opinion of many others, it would be exceedingly detrimental to the interests of this great national Society were any place to be deleted. Let them consider the course the Society had adopted in the past. They had gone with their exhibition to every district in Scotland, and afforded facilities to the tenants within those districts to see the best class of stock, and the newest improvements in agricultural implements, without being put to any great expense. He thought it was the duty of the Society not to diminish these efforts, but to go through the whole country. Mr Martin had said that one great object he had in view was to facilitate the sending of exhibitors' stock to the different places. It would be extremely injurious to the interests of this country if anything were to take place to prevent the poorest and lowliest sending his stock to the Show of the Society. Take the Show at Dumfries, for example. He supposed that if the Show had not been held there they would have had nothing like the same show of Galloways as they had on that occasion; and he believed that the Society in rotating through the country was affording the promoters of different kinds of stock an opportunity for exhibition which they could in no other way have. Therefore he thought, on the general ground of the Society being a national one, that it was bound to meet the wants of the whole country, and that it should carry on the present system. The Society was under a certain moral obligation to continue the system which had been carried out in the past, because they had people in the different districts who had assisted in maintaining the Society. If they altered their arrangements they would lose many who were now members of the Society, and, besides, they would lose the increase in the membership, which he considered was the backbone of the Society. He believed that this meeting would take a broad general view of the question. The whole matter was gone into in 1859. It was then considered by the Directors of the Society and disposed of. He did not know that anything had occurred to alter the state of matters since then. With reference to Kelso in particular, one objection had been the amount of accommodation. He might state that they had received an official letter from the railway company stating their anxiety to meet the wants of the public, and to do their utmost to assist exhibitors from different parts of the country. He understood that a great many people were hungry at Kelso on the last occasion, but he thought that the lesson taught to the Kelso people on that occasion would not be lost upon them now. Besides, there were many places near Kelso where people would find accommodation. The railway company had agreed to run convenient trains to such places as Melrose and Coldstream. He was sure that if the Society resolved on going to Kelso they would meet with a very cordial welcome.

Lord LOVAT said that if words a little more strong than the occasion necessitated had been used at Inverness, it was from ignorance of how the matter exactly stood more than from ill feeling towards any one who had anything to do with it. He thought it would be a great disadvantage if Inverness were to be cut out from the Show. The Society was originated for the benefit of the Highlands, but its benefits afterwards extended over all parts of the country; and to deprive the Highlands now, when they had got rich and powerful, of the advantages that had been given to them by the Society would be a very great mistake. He knew that the last Inverness Show did not pay. The weather might have had something to do with that, but they met besides in the poorest district, and they could not expect to reap a rich harvest when they went there with their Show. The object of the Society, however, was not to make and hoard money. It was to benefit agriculture in all departments and in all districts. After the last two Shows at Inverness it was surprising to see the number of new implements spread over the country, and the great interest which both large and small farmers took in the improvement of stock. There was no district in which improvement was more marked after the holding of their Shows than in the Highlands. They had heard complaints that the railway and hotel accommodation were not so good at Inverness as elsewhere, but he was quite sure that the railway company would do all in their power to give every facility. In these respects they were better now than when the Show was last held in Inverness, and they were improving every day. He thought the motion of Mr Martin, though it was not carried, would do much good, as there would be a stimulus in regard to the districts in which the Shows were to be held for the future that would make them all endeavour to increase their subscriptions and the number of their members, and do much in the way of removing, at least, the complaint that the Shows when they went to any district did not pay. But, as he had already said, he did not think that that was the question they ought to look to. It was rather the immense benefit done by the Society to all districts.

Mr BETHUNE of Belebo, said he thought Lord Lovat had made out an excellent case for Inverness, but the motion of Lord Polwarth seemed to imply that no alteration should take place on their present arrangements; that what had been done is now and

ever shall be. He hoped that Mr Martin would carry his motion, as he felt certain that any motion for inquiry would lead to its being brought out that there were many districts not taken up in the eight they at present visited. In Glasgow and Edinburgh the Show might be held every four instead of every eight years. Then there were such places as the kingdom of Fife and the county of Forfar alongside. Some were not going to keep up their annual subscriptions because they did not have a Show at Dundee. In Fife they had Dunfermline and Cupar, very like Kelso, where by-the-bye they had to pay £1 for a bed. There was also Oban and other places that they might occupy in the Highlands.

The Rev. JOHN GILLESPIE, Mouswald, approved of the first part of Mr Martin's motion relative to inquiry, but disapproved of the second delaying decision as to the Show at Kelso for 1880. If a committee were appointed a sufficient inquiry could not be made before June, and that would be too late for securing a proper Show for the ensuing year.

The Duke of Buccleuch referred to the fact that both the motion and amendment spoke of the appointment of a committee. He had had a pretty long acquaintance with the proceedings of the Society, and he could not recall any instance of a committee outside of the Directors being appointed by a general meeting. The Society elected their Directors to carry on its business, and when there had been a difference of opinion, such as there now appeared to be, they referred the matter to the Directors, requesting their particular attention to the subject. He saw that by the bye-laws, "Committees shall be appointed by the Directors, and shall in all cases report to them for their consideration and approval." As he understood it was in the power of the Directors on that or any other subject to appoint a committee to consider it, and he should suppose from the words used that they might appoint a committee either of themselves or taken from the general number of the members of the Society. If they were to pass by their Directors and appoint a committee on a hasty decision at a meeting such as this, they might very likely get themselves into very considerable confusion. His impression also was that hitherto they had had confidence in their Directors, and that they had every reason to repose confidence in them. He had no doubt, from what occurred that day, and what had occurred on former occasions, that if there was a strong feeling manifested on the part of a general meeting that this question of the place where a Show was to be held should be reconsidered, the Directors would of themselves take up that matter and be prepared at another meeting of the Society to state what their views were, and the reasons which had led them to the conclusion that they might arrive at. He entirely agreed with what had been said by previous speakers, that the object of the Society was not to make money. He considered that they were as much bound to go to a poor part of the country as a rich one. As said by Lord Lovat, it was to the poorer parts of the country—the parts, they might say, the least advanced in the science of agriculture—that the presence of this Society was of the greatest value and importance. He believed that the presence of the Society would be of benefit to Inverness as well as to Kelso. The latter was celebrated for its once magnificent abbey, destroyed by the English invasion. The only thing they had got to fear now was that when they held their meetings at Kelso those who invaded them from over the Border might be carrying away some of their best prizes. It would only be serving them right if they allowed their English neighbours to do so—if they were not incited to improve their animals as also their style of agriculture there. He hoped, therefore, that Mr Martin would not press the motion to a division, but that he would be satisfied to leave it to the consideration of the Directors, with a request that they would take the matter into consideration and report to a future meeting of the Society whether any alteration should be made in the places in which they were to meet. He recollected that the matter was very much discussed at the general meetings about twenty years ago, that it was taken up seriously by the Directors, and that the decision they then came to seemed to give universal satisfaction to the Society.

Mr GREIG, Harvieston (of Messrs Fowler & Co.), argued that if they were to have such confidence in their Directors as not to look into their matters themselves, they might as well not meet there at all, but leave matters wholly to them. There was almost unanimous feeling throughout Scotland in regard to the Board of Direction, and if they went abroad in Scotland and asked the opinion held, it would be found to be this, that the agriculture of Scotland had not progressed by the efforts of this Society during the last fifteen or twenty years. That was the general opinion. He would be very sorry indeed to be one of those who would appoint Directors and then not to leave to them what really should be left to them. But he held that it was the duty of the members of the Society to look into those grievances which so generally prevailed amongst them. He should be very sorry indeed if it were thought he wished in any way to reflect discourteously on his Grace the Duke of Buccleuch, but he felt that so far as the appointment of committees were concerned, they should be selected outside the Direction. If the Directors were what they were said to be, such a committee would be a means of strengthening their hands.

Mr HADDON, Honeyburn, said that nothing had fallen from his Grace to merit any

strictures being made upon the Directors, and he believed that that would be borne out by the way in which the meeting had been conducted. A motion had been brought forward, and, although opposed by the Directors, was carried by a large majority of those present. Had it not been for what fell from Colonel Gillon that the Directors had refused the wish of Colonel Williamson, he would have proposed to have remitted it to the Directors again on a recommendation from this meeting. But he thought that what they had done showed that they could both think and act for themselves, and give expression to their opinions without casting any reflection on the management, to the gentlemen connected with which they were all so much indebted for the interest they took in the Society's affairs. He trusted that both the Borderland, to which he belonged, and the Highlands, from which they had a large number present that day, would support the motion of Lord Polwarth.

Lord DENMAN suggested that as the Royal Agricultural Society held its Show in July, the Highland Society might consider whether its Show should not be held at Inverness in August rather than the month previous. There would be a much larger gathering in the later month. His Lordship further pointed out that it had always been in the power of the General Meeting to substitute one place for the Show instead of another if they disapproved of the place proposed by the Directors, but the preparations for Kelso were so far advanced and so well supported that he thought it would be a great pity if any alterations were made to affect it, at all events, on this occasion.

The SECRETARY then read the following documents:—

1st, Minute of Meeting of Proprietors and Tenants, Members of the Highland and Agricultural Society, held at Inverness the 13th January 1879. Twenty-two Members were present. Lord LOVAT in the Chair.

The CLERK read the advertisement calling the meeting, as well as apologies for non-attendance from the Convener, Mr Cameron of Lochiel, M.P. for the county, Sir George Macpherson Grant, and others.

The CHAIRMAN explained the object of the meeting, and moved the following resolution:—"That in the opinion of this meeting, the present movement on the part of certain members of the Highland and Agricultural Society to make an alteration on the circuit of the Society's Shows, whereby Inverness would cease to be a Show station, would, if successful, be subversive of the object for which the Society was originally constituted, and would be a violation of the Charters of 1787 and 1834, as well as injurious to the north of Scotland, and ought therefore strenuously to be opposed," which was seconded by Provost SIMPSON of Inverness, and unanimously agreed to.

Mr MOLLISON, Dochfour, moved the following resolution:—"That many of the present members having joined the Society and become life members in the belief that the Society would continue to hold a Show periodically in Inverness, and thus stimulate the agricultural improvement of the Highlands, it would be a virtual breach of faith with such members, and would be an effectual barrier to the obtaining of additional members in the North, were the Society to cut off Inverness as a station," which was seconded by Mr CAMERON of Clunes, and unanimously agreed to. It was moved by Mr ANDERSON of Lochdhu:—"That no part of Scotland has in recent years surpassed (if it has equalled) the Highlands in agricultural progress, by means of the reclamation and improvement of land, and in the rearing of stock; and it would be an injustice to the Society itself were facilities refused for the examination of such progress in Inverness, which is the acknowledged centre," which was seconded by Mr MACPHERSON, Clunas, and unanimously agreed to. It was moved by Mr DONALD DAVIDSON, Solicitor, Inverness:—"That the following be appointed a committee to attend the Society's meeting in Edinburgh on the 15th current to oppose the contemplated movement, with power to take such action thereon as shall appear to them to be necessary, namely, Lord Lovat; Donald Cameron, Esq. of Lochiel; Sir George Macpherson Grant of Balindalloch, Bart.; Lord Dunmore; James Anderson, Esq., Clerk of Supply, Inverness;" which was seconded by Mr CUMMING, Allanfeearn, and unanimously agreed to.

The Clerk was instructed to forward an excerpt of this minute to the Secretary of the Highland and Agricultural Society, to be read at the meeting on the 15th current.

(Signed) LOVAT.

## 2d, Memorial from the Inverness Farmers' Society:—

Unto the Directors of the Highland and Agricultural Society of Scotland, the Memorial of the Inverness Farmers' Society,

*Humbly Sheweth*,—That your memorialists have learned, with much concern and deep regret, that it is in contemplation to make certain alterations in the circuit of the Highland Society's Annual Shows, and that at the monthly meeting of the Directors, held on the 6th of November last, the question was raised of not having a periodical Show of the Society in Inverness.

Your Members further observe that at the meeting of the Society, to be held on the 15th current, a motion is to be brought forward by Mr Martin, younger of Auchenc-

dennan, to appoint a committee to consider the whole question of the circuit of the Society's Annual Show.

Your memorialists would therefore respectfully submit to the Society, that to cease meeting in Inverness periodically, would be subversive of the object for which the Society was originally instituted, an injustice to the whole north of Scotland, and to the many who have become members of the Society on the faith of these Shows being held in Inverness; and they now submit the following reasons against the proposal intended to be made, viz. :—

I. That when the Society was instituted in 1784, and established by Royal Charter in 1787, its object was the improvement of the Highlands only; that not until half a century thereafter (1834) was the title of the Society altered and its benefits bestowed, by Royal Charter, on the whole of Scotland.

II. That much of the money subscribed to the Society, and that now forms the invested capital of the Society, from which much of its revenue is derived, was subscribed with a view to the improvement of the Highlands only.

III. That to make Perth, Aberdeen, and Stirling the limit of the Shows of the Society, geographically leaves the half of Scotland unrepresented.

IV. That a very large number of members of the Society now belong to the Highlands of Scotland, or are interested in its prosperity, and that a change such as is proposed would be unjust to them, and would be an effectual barrier to the obtaining of many additional members in the north of Scotland, while at present the Society ranks amongst its members almost all the proprietors and leading agriculturists in the northern counties, and many others not engaged in agricultural pursuits.

V. That the object of the Society being the general improvement of the country, all that is necessary is that over a series of years the money received is sufficient to meet the demands of the Society. If, therefore, some stations are not remunerative, this is not a sufficient reason for discarding that station, so long as all stations together are sufficient to meet the demands of the Society.

Your memorialists would further suggest that now, with a perfect railway system in the North, and less expenses in connection with the Show, an exhibition in Inverness might be made to be, if not remunerative, at least sufficient to pay its expenses.

Your memorialists therefore trust that the Directors will decide that Inverness will continue to be one of the stations to be periodically visited by your Society.

And your Memorialists will ever pray.

Signed in name and on behalf of the Inverness Farmers' Society,

DUNCAN FORBES, *Chairman.*

Mr MARTIN, in replying, said that Lord Polwarth had said that he (Mr Martin) had spoken rather hard of Kelso, and spoke of it a little slightly. He had endeavoured studiously to avoid expressing any opinion as to the adoption of Kelso. The quotation he made was from an Inverness gentleman. With the municipal exception to which he had referred, he thought the tone of the discussion at Inverness had been creditable to those taking part in it. He did not think the gentlemen on the Board would accuse him of wishing to hoard the Society's money. He did not mean that they should keep to money-making places, and it was not with that view that he submitted his motion. He was extremely sorry not to be able to give way to the Duke of Buccleuch, to whom the Society owed so much. There was perhaps a little in the feeling that they were somewhat of a "close borough" in the Board-room, but as showing that he had no wish to press his motion against any particular place, he proposed to take away the latter part of his motion, and simply propose that they go into an inquiry.

Lord POLWARTH thought that after what had passed they might come to a decision without going to a vote at all. His remarks were made on the understanding that the object of the motion was that a certain number of places should be indicated. He thought that if the motion were put somewhat in this form, that the meeting should remit the question as to whether the number of places at which the Shows are held can with advantage be increased to the Directors of the Society, it might meet the wishes of all parties.

Provost SIMPSON, Inverness, explained, with reference to the statement that he made at Inverness, that his remarks were abbreviated in the report, that he merely spoke as to the object of the Society being originally to promote the prosperity of the Highlands, and did not intend anything personal.

The various suggestions and motions which had been made were then put before the meeting, and they were all withdrawn in favour of Mr Gillespie's, which was carried—viz., that the Show be held in Kelso in 1880, that a committee, composed of Directors and other members, be appointed to consider the question of the circuit of the annual Shows in future, and that a report be presented to the meeting of the Society in January 1880.

The noble CHAIRMAN then observed that they had arrived at the happy conclusion that they all thought exactly the same thing; and he was sure that a long conversation



never came to an end more agreeably. As to the general question regarding the circuit of the Shows, he was quite sure from the feelings exhibited that the meeting was not generally in favour of reducing these Shows. He thought the cases both of Inverness and Kelso had been so well advocated as to leave no doubt that there was a strong feeling in favour of these two districts being kept in the general circuit. Very possibly other places might with additional advantage be included in the circuit, and if a requisition were sent to the Directors from any of these places he had no doubt they would be glad to take them into consideration, and if possible extend the circuit so as to include them. As to the question of holding their Shows more frequently in the large commercial centres of Edinburgh and Glasgow, it seemed to him that once in eight years was very nearly enough in such places. The Shows had no doubt been successful in Edinburgh and Glasgow, but if they were held too frequently in these places, they might come not to attract so much attention. He did not wish to say anything as to Kelso, as it was the district to which he particularly belonged; but as next year was the last in which he would occupy the honourable position he had been placed in by the Society, he would like the last Show of his year of office to be in the place in which he took an interest, and where he could hope to be of some service.

Mr ORD of Over Whitton asked who was to appoint the committee. Was it the Directors, Mr Gillespie, or Mr Martin?

Mr GILLESPIE said he did not have a list of committee ready.

The noble CHAIRMAN said that he thought from what the Duke of Buccleuch had read of the constitution, it might be referred to the Directors to appoint a committee not only of those inside, but of those outside the Board. He had no doubt that they would appoint, as they had hitherto done, those representing different views, and come to a safe conclusion on the matter.

GENERAL MEETING OF THE SOCIETY AT THE SHOWS.—The Earl of DUNMORE then submitted the following motion, of which he had given notice:—"That this meeting approves of a general meeting of members being held annually at the place and time of holding the summer Show, and remits to the Directors to make the necessary arrangements for having such a meeting at Perth in last week of July 1879." The noble Lord said he was induced to bring forward this motion, really believing it to be in the best interests of the Society. With the occurrence of the annual Show, there was an opportunity of gathering together practical farmers and agricultural engineers such as was really not to be met with on any other occasion. From these they could on these occasions obtain suggestions that would be most valuable to the Society. They were unable to attend the statutory meetings in January and June for the purpose, and besides there were matters occurring to the minds of exhibitors of stock and implements that could be brought up on the spot, and thoroughly discussed and ventilated, which, even if they could attend the General Meetings, would in the course of six months have entirely escaped their memories. The Royal Agricultural Society of England had always a meeting on the second or third day of its Show in the yard, and it was always the best attended meeting they had in the year.

Mr M'KEAN, Lumloch, seconded the motion.

Mr MAXWELL of Munches—Are members to be proposed at that meeting as at the orderly half-yearly meetings, or what is exactly the aim of his Lordship?

Sir GRAHAM MONTGOMERY, M.P., said that as a very old exhibitor at the Shows of the Society he was quite at a loss to understand what object could be gained by this proposed meeting in the Showyard. Where would the meeting be held? Was it to be an open air meeting, or what kind of meeting was it to be? They had no accommodation for such meetings in the Showyard. He would be the last to oppose anything that would be for the good of the Society, but he could not for the life of him see what the advantage of this proposal would be. The members of the Society did not all go on the same day to the Show, and he did not believe therefore they would have an effective meeting. At all events it would not be a meeting at which any satisfactory business would be gone through. It might give an opportunity for gentlemen ventilating their grievances about anything that happened at the Show, but that was not a time at which such grievances should be considered. If there were any grievances on the part of exhibitors or members of the Society, these should be considered at meetings held at a distance from the time when they occurred. He was inclined, if competent to move the previous question, as this matter was brought up in 1874, when it was considered by the Directors, and they were decidedly of opinion that no advantage would be gained by the proposed change.

Mr GREIG supported the motion of Lord Dunmore, which he was sure would be approved of by the great body of the members of the Society. The interest of the Society, as he told them in his last speech, had gone down—gone down to such an extent that it was a most difficult thing to get a member to come up from the Grass-market to this meeting unless there was something affecting his own immediate district. He supposed that the business which was generally disposed of at the general meetings would be disposed of at the time and place of the Show. The general meetings were

usually attended by a few gentlemen about Edinburgh; but, however well-intentioned these gentlemen were, it was impossible that they could know the condition of agriculture in the more remote parts of Scotland. But with such a meeting as that proposed by Lord Dunmore they would have, as he told them, a general representation of members from all parts of Scotland. In answer to the question whether the meeting was to be held in the open air, he said that where the Show was usually held a place generally as large as the hall in which they were met could be got; or they could put up a place for it, the same as the Royal Society of England did. In regard to the want of time on the part of officials to attend such meetings, they had plenty of time to attend the President's dinner and ball. Why, if they had seen the energy the Secretary displayed when he (Mr Greig) was at a ball, he would have thought he could not have recovered for a month. He thought it would be a very curious thing indeed if these gentlemen could give so much time and energy to a ball and could not manage to attend the meetings of the Association.

Colonel GILLON seconded the previous question, and read the decision of the committee which was come to in 1874, as follows:—"By the Charter the Society holds two general meetings in each year—one in January, the other in June or July. And it is in the power of the Directors to call occasional general meetings, previous intimation of such general meetings, and the purpose thereof, being made by advertisement at least ten days before such meeting. The committee are of opinion that any change in this matter would be very inexpedient. Any local general meeting must necessarily be a very partial one, not representing the general body—the time of the deputation of the Directors and the officials of the Society is completely engrossed by the details of the Show. General meetings are restricted, as they should be, and are by the Charter, to general subjects, and could not enter into details without previous preparation from the Directors. The two ordinary meetings afford sufficient opportunities for bringing forward points to be remitted for that consideration which is necessary by careful investigation.

Mr MOLLISON, Dochfour, spoke in favour of Lord Dunmore's motion. He said that they were without representation unless they appeared at the general meeting, and the proposal now made would give them the opportunity of meeting, which they would not otherwise enjoy.

Lord POLWARTH said he had considerable sympathy with the motion of Lord Dunmore, and it might not be out of the way if they were to remit the matter to the Directors to consider and report to next meeting.

Lord DUNMORE said that he should like to say one or two words in reply to his honourable friend Sir Graham Montgomery. They had been talking a great deal about not wanting to hoard money. They had a great deal they did not know what to do with, and the Directors might give them a place where they might meet. As to the members not all visiting the Show on the same day, he had no doubt that if the general meeting was appointed on the second or third day of the Show that everybody would go then. It was a long time since 1874, and the members of the committee might perhaps be more liberal in opinion since then.

The CHAIRMAN said, with reference to the utility of the Society, Mr Greig had said that so little interest was taken in it that it was difficult to get people to come from the Grassmarket to attend the meeting. He took an opposite view of that from what Mr Greig did. He thought the members were so well satisfied with the state of things that they did not think they required to attend the meetings. He thought if things were not going on to their satisfaction they would take good care to attend the meetings.

The motion and the previous question were then put to the meeting, and the motion of Lord Dunmore was carried by a large majority.

DISTRICT SHOWS.—Mr MYLNE, Niddrie Mains, in the absence of Mr Campbell Swinton of Kimmerghame, said—In submitting the list of premiums awarded at district Shows during the past year, I consider it unnecessary to advert to it in detail, the competition having been conducted and the awards made in the different districts under the superintendence of the Society's resident members, who have given every attention to the duties devolving upon them. It may therefore suffice to state that the Society's money, premiums, or medals have been in operation in 310 districts, that a sum of about £800 was awarded, and that the names of the competitors and the prizes will be inserted in the forthcoming volume of the "Transactions." As regards the arrangements made for the current year, the Directors have to ask this meeting to sanction—10 districts for cattle, 7 districts for stallions, 6 districts for mares, 4 districts for colts and fillies, 9 districts for sheep, at the following rates:—£20 and four silver medals for each cattle district, £25 for each stallion district, £8 and one silver medal for each district for mares, £19 and four silver medals for each district for colts and fillies, and £18 and five silver medals for each sheep district; besides the usual medals in the intermediate years in the classes of cattle and sheep—seven in number. The special grants consist of £50 and a medium gold medal to the Edinburgh Christmas Club; £20 to the Ayrshire Agriculture Association, to be

competed for at the Dairy Produce Show at Kilmarnock; £3 each to the Rousay, Orkney, and Egilshay Societies; also 145 medium silver medals to 51 districts in aid of premiums given by local societies, and 218 minor silver medals to be given at ploughing competitions—making the total amount offered nearly £1000.

**COTTAGE COMPETITIONS.**—Mr MYLNE, in the absence of Mr Harry Maxwell Inglis of Loganbank, also reported that the money premiums and medals awarded in 19 districts during the past year amounted to £51, 10s., and that the premiums to be offered in 1879 amount to £63 in 24 districts, besides the offer of two gold medals to proprietors in Scotland who shall report the improvement or erection of the greatest number of approved cottages during the years 1875-76-77-78.

**CHEMICAL DEPARTMENT.**—Dr AITKEN reported as follows:—When I had the honour of addressing you six months ago, I anticipated that my next report would contain a short statistical summary of the first season's cropping upon our experimental stations. The manures had been applied to the soil with great accuracy, and under very favourable conditions; and although rain interrupted the sowing at Harelaw for nearly a fortnight, and a drought of several weeks' duration succeeded the sowing at Pumpherston, yet a good braird was got at both stations, and eventually a fair average crop. The different manurial treatment which the various plots had received showed itself markedly both in the amount and character of the crops, and this was particularly the case at Pumpherston station, the pooriness of whose soil rendered it very amenable to improvement by manures. A careful record has been kept of the appearance and progress of the various plots during the growing season, and this of itself forms a very satisfactory and instructive instalment towards the solution of the problems for which the experiments were undertaken. When the time for lifting the turnips at Pumpherston had arrived, a week of continuous rain occurred, which rendered that operation impracticable. As soon as the land was sufficiently dry lifting began, and was prosecuted with great vigour; the plot of each crop being kept carefully separate and weighed as it was taken off the ground. The work was scarcely half completed when, on 4th December, the severe frost set in which has only now given way. For about a month the crops were lying deep in snow, then a slight thaw occurred, which was sufficient to lay them bare to the alternate action of frost and sun. This has had an injurious effect at Pumpherston station, and we may have in some measure to rely upon the data which we already possess in determining the effects of the various manures on the plots still unlifted. Fortunately, two days before the frost set in, the crop at Pumpherston had been carefully sampled. I selected forty turnips from each plot, representing as nearly as possible the average growth. These were weighed, securely pitted, and numbered, and are now being analysed and investigated in various ways. The results of the analyses, and all the details regarding the growth of the various plots, will be recorded in the forthcoming volume of the Society's 'Transactions'. It is unnecessary that I should occupy your time with any of these details, as they are as yet very far from complete. The crop on Harelaw has not yet been touched, but I hope, if the thaw continues, to have it sampled and secured this week in a condition sufficiently good for the purposes of our experiments. To attempt to draw general conclusions from what has been observed in the growth of a first year's crop would, of course, be very injudicious. There are so many incidental circumstances which are able to affect the growth of plants, that it is only during a succession of seasons that errors derived from such causes are able to be determined and eliminated. Nevertheless as each season forms an item in determining the ultimate result, it is well that its effects should be noted and considered as it occurs. In a few words I would indicate the leading observations that have been made during the past season in the growth at our stations. Regarding the various applications of phosphates, it was noticed that the dissolved phosphates took the lead from the first, and maintained it all through the season; but the difference was not great, averaging perhaps between one and two tons per acre. These plots were all very much alike, no matter what was the source of the phosphate. The same is true of the plots with undissolved phosphates, except the bone dust plot, which was very backward. Of the nitrogenous manures, the nitrate of soda and sulphate of ammonia plots were exactly on a par. The one manured with shoddy was very backward, and that manured with dried blood, although very slow to begin, improved latterly with great rapidity, and was in the end equal to the best. The plots containing no nitrogen did badly, especially at Pumpherston. The potassic manures tried were only two—sulphate and chloride; and the plot manured with sulphate of potash was decidedly better than the other on both stations. The want of potash did not seem much to affect the growth; but those plots manured with potash ash alone were very poor, especially at Pumpherston, where it was the worst plot on the station. On both stations the plot with sulphate containing 20 per cent. soluble phosphate of lime gave a better crop than that containing 10 per cent. soluble and that containing 30 per cent. soluble. Regarding the experiments with various quantities of manure, it was uniformly found that those plots most abundantly manured gave the best crops. This was also noticed in many other

plots where the outermost drill on one or both sides of the plot produced the best crop, This was owing to the accident of their having received more manure than their due, for in sowing, a certain amount of manure was blown against the canvas screens or thrown against them, and it fell down upon the outermost drills. The difference in time of sowing exerted a marked influence on the crop, those first sown being larger. This was especially noticed at Harelaw, where, after the first twelve plots had been sown, wet weather set in and delayed operations for about ten days. These twelve plots are by far the best on the station. The effects of thick and thin sowing were also very apparent—that which was thin sown made a better crop. A fortnight after thinning it was very evident that the thin sown seeds had made better roots, and had a sturdier growth. The drought at Pumpherston seemed to tell most on the plots with undissolved manures, and especially on those containing fatty matter, such as bone dust, shoddy, dried blood, and also rape cake and cotton cake, the latter of which was not equal to the former. The miniature plots of 1-112th acre in most cases, and especially at Harelaw, seemed to bear out very satisfactorily than the results obtained on the large ones of the same kind. At Pumpherston, however, on account of small localised inequalities of soil, one-half of the small plots gave results which are quite unreliable, and I suspect the half or perhaps the whole of them must be discarded. I will not detain you longer with details which at best are but an imperfect anticipation of the accurate report which will appear in the "Transactions," but would only say, in conclusion, that the season's experience which I have had of our experimental stations convinces me that they are admirably adapted for the purposes of the experiments we are undertaking, and I have perfect confidence in our being able to bring our various investigations to a successful issue.

Mr MELVIN, Bonnington, said that during the season he had had the opportunity frequently of seeing the experiments and the way in which they were carried out, and he had great pleasure in saying that they were very carefully conducted. It would be a great treat for any one to go and see them carried out. He thought the results had borne out the great value of nitrogen and dissolved phosphate. They further proved the advantage in carrying on experiments of not trying less than an acre and a quarter.

Mr HOPE, Leith, said that he did not think any greater good could be given to the farmers of Scotland than by the Society providing them with the means of obtaining correct chemical analyses under their auspices; and he moved that the meeting "remit to the Directors to consider how the members of the Society can be put in possession of the advantages at present given through local associations with a greater guarantee of correctness."

Mr MUNRO, Fairnington, seconded the motion, which was agreed to.

**TRANSACTIONS.**—The Secretary reported, in the absence of Mr Irvine of Drum, that part of Volume XI. was already in the printer's hands, and would include the prize essays that would be announced to-day, the premium lists, the proceedings at board and general meetings, and other official documents. It would also contain a revised list of members, and those who have changed their residences were requested to send a note of their new addresses to the Secretary, 3 George IV. Bridge, at their earliest convenience.

The Rev. JOHN GILLESPIE moved—"That a committee, composed of Directors and other members of the Society, be appointed to consider and report what improvements, if any, can be made in the 'Transactions' of the Society, and especially whether any change in the present mode of procuring papers for publication can be introduced with advantage—the report to be made public before the general meeting of the Society in January 1880, with the view of its being disposed of at said meeting." He said it had been intimated by the Secretary that the Directors acquiesced in the motion, and he presumed that there would be no opposition in any other quarter. He might say that theoretically the present system of getting the papers was unobjectionable, but in practice it had not come up to the expectation that was formed regarding it.

Mr GREIG (of Messrs Fowler & Co.) complained that many of the essays were not of practical value, and he thought that some practical farmer should be put on the examining committee.

The Marquis of LOTHIAN said he had no doubt that the Directors would see that practical men were put on the committee.

**AGRICULTURAL EDUCATION—BURSARIES.**—Mr MYLNE, Niddrie Mains, in the absence of Professor Wilson, reported that the examination of candidates for the Society's bursaries took place on the 30th of October, when R. M. Malloch, Balhaldie, Braco, Perthshire, passed for a bursary of £20; and David Wallace, Balgrummo, Leven, Fife, and Donald Brims, East Watten, Caithness, for bursaries of £10 each; and that James Sutherland, Wick; William Chalmers, East Watten; Alex. P. Reid, Keiss; and W. R. Tait, Wick, were awarded £5 each.

**VETERINARY DEPARTMENT.**—Captain TOD of Howden said—As Chairman of the Committee in charge of the Society's Veterinary Department, I reported to the general meeting in January 1877, that the Society's petition to Her Majesty the Queen for a

National Charter for Scotland, empowering the Society to grant veterinary diplomas, had been refused. It will perhaps be in the recollection of some members, that an influential deputation from the Society waited on the Lord President, at the Privy Council Office, on the 24th of May 1876, with the view of urging the claims of Scotland and of the Society for such a charter; and that the decision of the Privy Council was communicated to the Society on the 12th of December 1876. In that communication no reasons were given for the adverse decision arrived at. It has, however, since come to the knowledge of the Directors and committee that the Council of the Royal College of Veterinary Surgeons thought it desirable to ascertain the feelings of those members of the veterinary profession who had been educated in Scotch schools, with regard to the Society's application for a veterinary charter. A circular was accordingly addressed to them. The result is embodied in a letter from Major-General Sir Frederick Fitzwygram to the Duke of Richmond and Gordon, dated 5th July 1876, and published in the "Veterinarian" for June 1877. In that communication reference is made to objections urged by a deputation of the Royal College of Veterinary Surgeons, at an interview with his Grace on the 29th of May, five days after the Highland Society deputation had been received. The letter adds:—"After that interview the Council of the Royal College of Veterinary Surgeons addressed a circular to all members of the Royal College of Veterinary Surgeons who hold the certificate of the Highland and Agricultural Society in addition to the diploma of the Royal College of Veterinary Surgeons. These members are 428 in number. Replies have been received from 203 of these. All except two object to the application of the Highland and Agricultural Society for a veterinary charter. Among those who so object are the Principals of the three Scottish schools. More recently, the Council of the Royal College of Veterinary Surgeons addressed a similar circular to all those members of the profession who were educated in Scottish schools, but who hold only the diploma of the Royal College of Veterinary Surgeons. So far as replies have been received, all these unanimously object to the proposed application of the Highland and Agricultural Society. The Council of the Royal College of Veterinary Surgeons have also endeavoured to ascertain the feeling of members of the veterinary profession practising in Scotland. These number about 230. Replies have been received from 116. All of these, except one, object to the application of the Highland and Agricultural Society." The committee, having no reason to doubt the accuracy of the statements contained in Sir Frederick Fitzwygram's letter, and believing from them that the veterinary profession is opposed to the Society's application, were recently reluctantly constrained to recommend to the Directors that the Society's veterinary examinations should be suspended. The Directors approved of the recommendation, and authorised a committee of the Society to enter into negotiations with the Royal College of Veterinary Surgeons, through their president, Sir Frederick Fitzwygram. The result of these negotiations has been that articles of agreement between the Society and the Royal College are in course of adjustment, with the view of the admission of holders of the veterinary certificates of the Society as members of the Royal College of Veterinary Surgeons, on payment of certain fees, without being required to submit to any further examination; also for the purpose of terminating the examinations heretofore held by the Society. Due provision will, however, be made for carrying on the examinations of persons already admitted as students of the Society who may hereafter elect or claim to be examined by the Society's examiners in preference to submitting to examinations by the Royal College of Veterinary Surgeons. These parties will also be admitted members of the Royal College on payment of certain fees, and without submitting to further examination. As soon as the articles of agreement are finally adjusted, the document will be published for the information of the veterinary profession. I cannot conclude without recording that, in my opinion, justice has not been done to the Society. When lectures were established by the Society in 1823, the veterinary art was very imperfectly understood in Scotland; it was practised in a rude and irregular manner, and the want of adequate science and proper system in the treatment of diseases peculiar to animals, exposed agriculturists and others to great inconvenience and loss. The establishment of the Edinburgh Veterinary School was the means of obviating this serious evil, and above 1100 students have, during the last fifty-five years, passed the ordeal of a strict examination, conducted under the direction of the most eminent men of the medical faculty, and also of distinguished veterinary surgeons. Many of those holding the veterinary certificate of the Society are now disseminated over all parts of the country, in India, and in the colonies, carrying with them the benefits of increased science and improved skill in the practice of their profession. I should mention that these advantages have been secured to the public without having ever drawn upon it for assistance or support, the Society having never asked or received one farthing of public money on behalf of its veterinary department, but expended a large sum from its own funds. Its certificate conferred the high privilege of eligibility for appointments in Her Majesty's service, and for all employment competent to members of the veterinary profession. There are at present in Scotland no fewer than four universities qualified to confer degrees in medicine, and it was surely

therefore not unreasonable to ask that a similar right should be granted to confer veterinary diplomas. Whether the suspension of the Society's examinations may turn out disadvantageous to Scotland and the veterinary profession, remains to be proved; but under the circumstances I have now detailed, the Directors considered it impossible to continue to grant certificates.

**AGRICULTURAL REPORTS.**—Mr MYLNE, Niddrie Mains (in the absence of Mr Walker of Bowland, convener), laid on the table the reports on the premiums awarded for Agricultural Reports, and those offered for competition in 1879, which were approved of.

**FORESTRY DEPARTMENT.**—Professor BALFOUR submitted the reports on premiums awarded in the Forestry Department, and those offered for competition in 1879, which were approved of.

The proceedings concluded with a vote of thanks to the Marquis of Lothian, which was proposed by Mr MURRAY of Dollerie.

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## TESTIMONIAL TO MR F. N. MENZIES.

PRESENTED AT A MEETING HELD IN THE SOCIETY'S HALL,  
17TH JULY 1878.

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HIS GRACE THE DUKE OF BUCCLEUCH AND QUEENSBERRY, K.G., IN THE CHAIR.

The Duke of BUCCLEUCH said that, as they were all aware, the purpose for which they had met was to present a testimonial to their esteemed secretary, Mr Menzies. (Applause.) In the first place, he would call on Mr Walker of Bowland to report as to the proceedings of the committee.

Mr WALKER said he did not know that he had anything to mention which was not already known to all present; but it was right that at the conclusion of the labours of the committee he should make a short statement. As they were aware, the movement to present a testimonial to Mr Menzies was commenced by members of the Society, who had been much struck with the idea that his services and his attention to the affairs of the Society, especially at a time when he was labouring under circumstances of extreme family distress, should be recognised. Those gentlemen thought it right to bring their proposal before a meeting of the Directors of the Society, as they did not think it would be proper to act in the matter without their sanction. They accordingly did so, and the Directors of the Society cordially entered into the proposed movement. He himself was not present at that meeting of the Directors; but the result was that an acting committee was appointed, consisting of Sir William Baillie, Admiral Sir William J. Hope Johnstone, Mr Gillon of Wallhouse, Mr Hutchison of Carlowrie, Mr Mylne, Niddrie Mains; Mr Howatson of Dornel; and Mr Ferguson, Kinnochtry; and they did himself the honour of appointing him convener of that committee. The first duty they had to discharge was to organise a large general committee, in order that the object in view should be presented to the members of the Society under proper auspices. They distributed a number of circulars, which, he must say, were almost universally responded to and most cordially received. (Applause.) The result of that was that a committee, consisting of about 200 members of the Society, was organised, the Duke of Buccleuch kindly undertaking to act as chairman of the committee; Sir Wm. Gibson-Craig as vice-chairman; Mr Hutchison of Carlowrie as treasurer; with a committee consisting of the Earl of Dalkeith, the Marquis of Lothian, the Earl of Wemyss, the Earl of Glasgow, Lord Lovat, and a great many proprietors and tenant-farmers—he might say, both rich and poor. The movement was not one got up by a class, but it was a general movement on the part of the friends of Mr Menzies in the Society. (Applause.) After having arranged the committee, they then communicated with the members of the Society, and the results would be laid before them to-day in the testimonial to be presented to their friend. He would merely take this opportunity of referring to the very recent death of one of the members of the acting committee, Admiral Sir William Hope Johnstone, whose funeral, he believed, took place that very day. He knew that Sir William was very deeply interested in the movement, and there was not a more active member of the acting committee than Sir William—

(applause)—for he did not think that he failed to attend a single meeting of the committee.

The Duke of Buccleuch then said he had to call upon Mr Hutchison to give in a report as to the accounts connected with the testimonial.

Mr HUTCHISON said that letters of apology for absence had been received from the following:—The Earl of Strathmore, the Earl of Glasgow, Lord Balfour of Burleigh, Hon. G. R. Vernon, Sir William Forbes of Craigievar, Bart.; Sir Robert K. A. Dick Cunynghame of Prestonfield, Bart.; Mr Hunter Arundell of Barjarg; Mr Erskine of Linlathen; Mr Farquharson of Haughton; Mr Ferguson, Kinnochtry; Mr Irvine of Drum; Captain Elliott Lockhart of Borthwickbrae; Mr Maxwell of Gribton; Mr White-Melville of Bennochy; Mr A. T. Niven, C.A.; Mr Ord, Nisbet; Mr Pagan, Dalchruin; Mr Skinner of Corra, city clerk; Mr David Stevenson, C.E.; Mr Thomas Coutts Trotter, London; and Mr Young of Cleish Castle. He then went on to say that, in regard to the operations of the committee, he had much pleasure in stating that subscriptions had been received from 671 members of the Society, amounting in all to £1320, 11s. After deducting expenses, there remained a sum of £1225, 19s. 2d.

The Duke of Buccleuch said that, in addition to the list of apologies for absence, he had been asked by his son, Lord Dalkeith, to express his great regret that his Parliamentary duties prevented him from being present. They had heard from Mr Walker a statement as to the origin of the testimonial. It was not one of an ordinary character—it was not one like what was sometimes thought of after a long series of years of devotion and of work to the Society; but during the time that Mr Menzies had held the position of Secretary—about twelve years—there was not one who had been more indefatigable on all occasions in every branch to which his attention was necessarily directed, or if not directed, to which he did not naturally turn. (Applause.) He himself could speak from experience—practical experience—of the value of Mr Menzies' services. Having had the honour of holding the high position of President of this Society during the time that Mr Menzies had been acting as Secretary, he knew that it would have been impossible for him to have carried on the duties connected with that position had it not been for Mr Menzies' untiring assiduity, and his constant assistance and information afforded on every occasion—not necessarily official and as Secretary, but freely, willingly, and voluntarily on his part. (Applause.) At the time when Mr Menzies was suffering from domestic affliction last year, they had a very important meeting of the Highland Society in Edinburgh, requiring more than ordinary care and attention, and where the details were very difficult to arrange. But Mr Menzies' sense of duty overcame everything. Whatever his own private feelings might be, his sense of duty carried him forward, and he sacrificed himself in every way to the Society of which he was Secretary. The success which attended that meeting was a sufficient test of the manner in which he discharged his duties. (Applause.) This was not the time for making long speeches, nor had he a long speech to make, because if he did so he would be only recounting what they all personally knew. It was not as if he were to address an assembly to tell what had been done, and about the character and nature of the work of the Secretary, and the person who undertook that work. Mr Menzies had to succeed a most active and energetic man—the late Mr Hall Maxwell—so that he had, if possible, not only a greater stimulus to his exertions, but also a feeling that he must surpass in energy and work those who had gone before him. That Mr Menzies had done so during the time he had been Secretary he thought they would all allow. (Applause.) He thought it was very gratifying, as Mr Walker had told them, that the testimonial had emanated chiefly from the tenantry, who had first started the idea. It was not alone from the rich and opulent—not alone from the great prize-takers and exhibitors—but from the members of the Society and those who took an interest in it. (Applause.) He observed that nearly 700 members of the Society contributed to the testimonial, and that of itself was, he thought, a sufficient test of the estimation in which Mr Menzies was held. (Applause.) He might mention that the amount received from any one individual subscriber was limited to five guineas, although there were many, no doubt, who would have been glad to have exceeded that amount. (Applause.) There was before him for presentation to Mr Menzies a silver tankard, which had been selected as a sort of memorial, and which could be exhibited on the table or in his house, so that when persons asked what it was, he could answer with pride—"That is a mark I received from the Highland Society of the estimation in which my services were held." (Loud applause.)

The tankard is a large and massive piece of workmanship made of Scottish silver from the Duke of Buccleuch's mines at Wanlockhead. The lid is surmounted by the figure of a horse. On one side of the tankard, which is richly ornamented, is the representation of a shepherd with a flock of sheep; and on the other a group of horned cattle. The inscription upon it is as follows:—"Presented, along with a sum of £1156, by 671 members of the Highland and Agricultural Society of Scotland, to Mr Fletcher Norton Menzies, as a mark of their high appreciation of his services as Secretary, and of his successful exertions and devotion to duty in promoting the useful-

ness and interests of the Society.—Edinburgh, 17th July 1878." The tankard was designed and made by Messrs Hamilton, Crichton, & Co., jewellers, George Street, Edinburgh.

The Marquis of LOTIAN said that perhaps he might be allowed, as President of the Society, to make a few remarks in corroboration of what the noble Duke had stated. He could only say how very much gratified he felt, both personally and officially, that this presentation to Mr Menzies should have taken place during his period of office. (Applause.) His Grace had specially referred to last year, which was the first year of his presidency of that great Society. He had had a great many opportunities, official and otherwise, of meeting Mr Menzies during that time, and he could corroborate what had fallen from his Grace as to the high sense of duty, and the desire manifested to promote the interests of the Society, that actuated Mr Menzies in what was done last year. He might perhaps be better able than his Grace to testify to the great mental difficulties under which the work had been carried on by Mr Menzies. Most of them would have shrunk from the performance of the duties under the circumstances in which Mr Menzies found himself, and made it an excuse for doing less than usual. He, on the contrary, found in his sorrow only an incentive to promote in every way the success of the Show. He thought that the exhibition itself was the best proof of the sense of duty which animated Mr Menzies. Before that time, as a Director of the Society, he had a great many opportunities of seeing and meeting with Mr Menzies officially and otherwise. He believed that the experience he had had of that gentlemen was the experience of all who had had any dealings with him—his great courtesy, and his endeavour, while doing his duty to the Society, to please and to be useful to all with whom he came in contact. (Applause.) There were a great many testimonials. There were some that were subscribed to as a matter of duty, and there were others subscribed to because it was a pleasure to do so; and he thought that this testimonial was most emphatically one of the latter class. (Applause.) All who had subscribed to it had felt a sincere pleasure in being able in that way to testify to Mr Menzies their sense of the manner in which he had discharged his duties as Secretary of the Society. As President of the Society he begged to express his congratulations to Mr Menzies and to the Society for presenting him with so handsome a testimonial. (Applause.)

The Duke of BUCCLEUCH then presented Mr Menzies with a cheque for £1156 and the silver tankard.

MR MENZIES, who was received with loud applause, returned thanks. He said he wished he could find words to express the feelings that he had on this occasion. The testimonial which he had had the honour to receive from his Grace he had, of course, known about for some time; and he felt very proud of it. (Applause.) When he became Secretary of that great Society he followed, as his Grace had said, in the footsteps of a very eminent man who carried on the business of the Society for twenty years with great success and satisfaction to the members. He felt great diffidence in following such a man. The business of the Society was so multifarious, and so many different subjects were connected with it, that it was not easy for a new Secretary to fulfil all its duties. He felt that he would be wanting in his duty towards the other officials of the Society if he did not mention the name of an old and valued friend, Mr Duncan—(Applause)—who was of the greatest benefit to him from his long experience, and his extreme zeal and willingness. (Applause.) There were many things which enhanced to him the value of this testimonial. His Grace and Mr Walker had both alluded to the circumstance that the movement began outside the direction. The Directors, he might say, had been his personal friends since he became Secretary of the Society, and they had gone on like a happy family; and it might have been thought by some that the movement had been commenced from their personal wish to appreciate the zeal he had displayed in their service. But it originated outside the Directors, and on an occasion which he should never forget. Had it not been from a strong sense of duty, he might not have carried on the Society's business as he had done last year; but, thank God, he got through it. (Applause.) This expression of their appreciation of his services he looked upon with the very greatest feeling not only of gratitude, but something more than gratitude—(Applause)—and he would always feel that he owed to the Society every possible exertion that he could make on behalf of its interests. (Applause.) There was another matter that he would like to allude to—namely, that it was a great satisfaction to him to receive this testimonial at the hands of his Grace. (Applause.) When he was appointed Secretary he believed it was the desire of the Society that his Grace should be elected President for the second time, because he was so well acquainted with the affairs of the Society. He was also known to be a thorough business man, who would not spare time nor trouble in seeing that the business was properly done, and that he would keep him (Mr Menzies) right in regard to the matters that came before them. (Applause.) He had to thank his Grace for the kind interest he took in him at that time, and but for him he might have made a great many mistakes at the outset. He was sure that there was no one who might be placed in his position but would be proud of the Duke being present on such



an occasion. (Applause). He had also to thank the Marquis of Lothian for the kind words he had said to-day, and for being present, as he knew, at great inconvenience to himself. (Applause). He likewise had to thank those gentlemen who attended, as they had conferred on him a very great honour, which he felt from his heart. (Applause). He could not conclude without thanking the committee, as he knew that such a testimonial could not be got up without such a committee exerting themselves. He had especially to thank Mr Walker, the Chairman, and Mr Hutchison, the Treasurer, for the great kindness they had manifested on the present occasion. (Applause). So long as he held the position of Secretary of the Society, nothing would be wanting on his part to endeavour to the utmost to render himself worthy of the great kindness they had shown to him. (Loud applause).

The Duke of BUCCLEUCH stated that he had just received a telegram from the Earl of Glasgow, expressing regret that he was unable to be present.

After a pause,

The Duke of BUCCLEUCH, shaking hands with Mr Menzies, said that he had much pleasure in giving him the right hand of friendship, and in congratulating him on the occasion that had brought them together. (Applause).

On the motion of Professor DOUGLAS MACLAGAN, a cordial vote of thanks was given to the Duke of Buccleuch for presiding, and the proceedings terminated.

## PREMIUMS AWARDED BY THE SOCIETY IN 1878-79.

## I.—REPORTS, 1879.

## AGRICULTURAL.

1. John M'Culloch, Denbie Mains, Lockerbie, for a Report on the History of Leases of Lands from the Earliest Times, . . . . .	£25	0	0	
2. John Scott, 28 Gloucester Street, Regent's Park, London, N.W., for a Report on a Popular Classification and Arrangement of Animal Parasites, . . . . .	10	0	0	
3. John Ainslie, jun., Hillend, Loanhead, for a Report on the advantage of Ploughing in Manure at once on being spread, or of leaving it spread for a time, . . . . .	Medium Gold Medal,	6	2	0
4. George Grant, Allamichie, Dufftown, Banffshire, for a Report on the Reclamation of Ten Acres of Waste Land, . . . . .	5	0	0	
5. Thomas Lawson, Sandyford, Kirriemuir, for a Report on the Results of Experiments with Lime and various Artificial Manures, . . . . .	Medium Gold Medal,	6	2	0
6. Professor Tanner, Abergeloe, North Wales, for a Report on the Variations in the Composition of Oats, . . . . .	5	0	0	
7. George Muirhead, Paxton, Berwick-on-Tweed, for a Report on Continuous Corn-growing, . . . . .	Minor Gold Medal,	3	15	0

## FORESTRY.

8. Robert Hutchison of Carlowrie, Kirkliston, for a Report on the Old and Remarkable Spanish Chestnuts in Scotland, . . . . .	Gold Medal,	10	0	0
9. Robert Hutchison of Carlowrie, Kirkliston, for a Report on the <i>Picea Nobilis</i> and its value for Planting in Scotland, . . . . .	Medium Gold Medal,	6	2	0
10. William Scaling, Old Manor House, Basford, Notts, for a Report on the Growth and Cultivation of Willows in Scotland, . . . . .	Medium Gold Medal,	6	2	0
11. Thomas Wilkie, Ardkinglas, Inveraray, for a Report on the Cause of Ringshake in Trees, . . . . .	5	0	0	
12. John M. Aitken, 24 St Andrew Square, Edinburgh, for a Report on the <i>Hylobius Abietis</i> , or Fir Weevil, . . . . .	Minor Gold Medal,	3	15	0
		£91	19	0

## II.—EDINBURGH SHOW, 1877.

Duncan Ross, Academy Court, Inverness, for Turnip Topping and Tailing Machine (at trial at Niddrie Mains, 4th December 1877), . . . . .	Minor Gold Medal,	£3	15	0
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## III.—DUMFRIES SHOW, 1878.

## CLASS I.—CATTLE.

## GALLOWAY.

## SECTION 1. BULLS calved before 1st January 1876.

1. James Cunningham, Tarbreoch, Dalbeattie, "The Mackintosh" (1009), . . . . .	£20	0	0	
2. Thomas Biggar of Chapelton, Dalbeattie, "Lord of Nithsdale" (616), . . . . .	10	0	0	
3. John Millican, Wedholme House, Abbey Town, Carlisle, "Hazeldean" (1010), . . . . .	5	0	0	
Breeder of Best Bull—James Graham, Parcelstown, Longtown, . . . . .	Silver Medal,	0	16	0
Highly Commended, George Graham, Oakbank, Longtown, "Viscount Preston" (1008). Commended, The Earl of Galloway, Galloway House, Garliestown, "Scottish Borderer" (699).				

## SECTION 2. BULLS calved after 1st January 1876.

1. James Little, Fauld, Longtown, "Lord Walter of Drumlanrig," (1024), . . . . .	20	0	0
2. The Duke of Buccleuch and Queensberry, K.G., Drumlanrig, "Sir William of Drumlanrig" (1039), . . . . .	10	0	0
3. Maxwell Clark, Culmain, Crockettford, Dumfries, "Queensberry" (1027), . . . . .	5	0	0
H. C., James Little, Fauld, Longtown, "Liddlesdale" (1031).			

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Carry forward, £70 16 0

Brought forward, £70 16 0

## SECTION 3. BULLS calved after 1st January 1877.

1. The Duke of Buccleuch and Queensberry, K.G., Drumlanrig, Thornhill, "Sportsman of Drumlanrig" (1157), . . . . .	10 0 0
2. Peter Morton, Lawshall, Longtown, "Juryman" (116), . . . . .	5 0 0
3. Sir Henry Ralph Vane, Bart., Hutton-in-the-Forrest, Penrith, "Deloraine" (1150), . . . . .	3 0 0
H. C., James Graham, Parcelstown, Longtown, "Harden" (1151). C., James Cunningham, Tarbreoch, Dalbeattie, "Knowsley" (1279).	
First Prize Cow at Aberdeen—Exhibited for Medium Gold Medal.	
Aberdeen, 1876, when the property of the present Exhibitor—The Duke of Buccleuch and Queensberry, K.G., Drumlanrig, Thornhill, "Nightingale of Drumlanrig" (1656), . . . . .	
	6 2 0

## SECTION 4. COWS calved before 1st January 1875.

1. The Duke of Buccleuch and Queensberry, K.G., Drumlanrig, Thornhill, "Beauty of Drumlanrig" (1755), . . . . .	20 0 0
2. Thomas Biggar of Chapelton, Dalbeattie, "Jeanie Deans" (2696), . . . . .	10 0 0
5. James Cunningham, Tarbreoch, Dalbeattie, "Mary Douglas of Lawshall" (3276), . . . . .	5 0 0
V. H. C., James Graham, Parcelstown, Longtown, "Forest Queen 2d" (1423). H. C., The Duke of Buccleuch and Queensberry, K.G., Drumlanrig, Thornhill, "Melantho of Drumlanrig" (1643). C., The Duke of Buccleuch and Queensberry, K.G., Drumlanrig, Thornhill, "Alice of Drumlanrig" (1971).	

## SECTION 5. COWS calved after 1st January 1875.

1. The Duke of Buccleuch and Queensberry, K.G., Drumlanrig, Thornhill, "Countess of Drumlanrig" (2621), . . . . .	15 0 0
2. James Cunningham, Tarbreoch, Dalbeattie, "Lady Stanley 3d" (2861), . . . . .	10 0 0
3. The Duke of Buccleuch and Queensberry, K.G., Drumlanrig, Thornhill, "Hannah 3d of Drumlanrig" (2620), . . . . .	5 0 0
H. C., The Duke of Buccleuch and Queensberry, K.G., Drumlanrig, Thornhill, "Fanny 3d of Drumlanrig" (2624). C., The Duke of Buccleuch and Queensberry, K.G., "Fanny 2d of Drumlanrig" (2623).	

## SECTION 6. HEIFERS calved after 1st January 1876.

1. The Duke of Buccleuch and Queensberry, K.G., Drumlanrig, Thornhill, "Hannah 4th of Drumlanrig" (2638), . . . . .	10 0 0
2. The Duke of Buccleuch and Queensberry, K.G., Drumlanrig, Thornhill, "Semiramis of Drumlanrig" (2870), . . . . .	6 0 0
3. The Duke of Buccleuch and Queensberry, K.G., Drumlanrig, Thornhill, "Princess of Drumlanrig" (2989), . . . . .	4 0 0
V. H. C., The Duke of Buccleuch and Queensberry, K.G., Drumlanrig, Thornhill, "Peggie 2d of Fallow-wheat" (2770). H. C., The Duke of Buccleuch and Queensberry, K.G., Drumlanrig, Thornhill, "Louisa 5th of Drumlanrig" (2639). C., William Routledge, Elrig, Portwilliam, "Mary 4th of Elrig" (3028).	

## SECTION 7. HEIFERS calved after 1st January 1877.

1. The Duke of Buccleuch and Queensberry, K.G., Drumlanrig, Thornhill, "Harriet 9th of Drumlanrig" (2980), . . . . .	8 0 0
2. The Duke of Buccleuch and Queensberry, K.G., Drumlanrig, Thornhill, "Alice 3d of Drumlanrig" (2986), . . . . .	5 0 0
3. The Duke of Buccleuch and Queensberry, K.G., Drumlanrig, Thornhill, "Princess 2d of Drumlanrig" (2990), . . . . .	3 0 0
V. H. C., The Duke of Buccleuch and Queensberry, K.G., Drumlanrig, Thornhill, "Harriet 7th" (2978). H. C., W. & J. Shennan, Balig, Kirkcudbright, "Miller 6th." C., W. & J. Shennan, Balig, Kirkcudbright, "Mary of Balig 4th;" Robert Jardine of Castlemilk, Lockerbie, "Soney Lady" (3047).	

## POLLED ANGUS OR ABERDEEN.

## SECTION 8. BULLS calved before 1st January 1876.

1. Thomas Ferguson, Kinnochtry, Coupar Angus, "Shah" (680), . . . . .	£20 0 0
2. William James Tayler, Rothiemay House, Huntly, "Waterside King" (870), . . . . .	10 0 0
3. George Bean, Balquhain Mains, Pitcaple, "Serapis" (998), . . . . .	5 0 0
Breeder of Best Bull—W. McCombie of Tillyfour, Aberdeen, . . . . . Silver Medal,	0 16 0
H. C., The Earl of Aberdeen, Haddo House, Aberdeen, "Archbishop" (787).	

Carry forward, £281 14 0

Brought forward, £231 14 0

## SECTION 9. BULLS calved after 1st January 1876.

1. William James Tayler, Rothiemay House, Huntly, "Sir Maurice" (1819),	20	0	0
2. The Marquis of Huntly, Aboyne Castle, Aberdeenshire, "Warrior" (1291),	10	0	0
3. The Marquis of Huntly, Aboyne Castle, Aberdeenshire, "Monarch" (1182),	5	0	0

## SECTION 10. BULLS calved after 1st January 1877.

1. T. L. M. Cartwright, Melville House, Ladybank, "Black Prince,"	10	0	0
2. George Hamilton, Skene House, Aberdeen, "His Excellency,"	5	0	0
3. William McCombie of Easter Skene, Skene, "Conqueror,"	3	0	0
V. H. C., William M. Skinner, Drumin, Ballindalloch, "Comet" (1411). H. C., William James Tayler, Rothiemay House, Huntly, "Prince Royal" (1375). C., Sir George Macpherson Grant, Bart., Ballindalloch Castle, Ballindalloch, "Editor."			

## SECTION 11. COWS of any Age.

1. George Reid, Baads, Peterculter, Aberdeen, "Isa" (1965),	£20	0	0
2. Sir George Macpherson Grant, Bart., Ballindalloch Castle, Ballindalloch, "Echo" (2976),	10	0	0
3. James Molr, Mains of Wardhouse, Inch, Aberdeen, "Hawthorn of Wardhouse" (2467),	5	0	0
V. H. C., George Reid, Baads, Peterculter, Aberdeen, "Lady Irvine" (1963). H. C., Sir Thomas Gladstone of Fasque, Bart., Laurencekirk, "Eurydice" (2515). H. C., William M. Skinner, Drumin, Ballindalloch, "Sweetheart" (1689).			

## SECTION 12. HEIFERS calved after 1st January 1876.

1. William M. Skinner, Drumin, Ballindalloch, "Sunshine 2d" (3333),	16	0	0
2. William McCombie of Easter Skene, Skene, "Proserpine,"	6	0	0
3. Sir George Macpherson Grant, Bart., Ballindalloch Castle, Ballindalloch, "Edina" (2987),	4	0	0
H. C., William M. Skinner, Drumin, Ballindalloch, "Sweetheart 3d" (3332).			

## SECTION 13. HEIFERS calved after 1st January 1877.

1. Thomas Ferguson, Kinnochtry, Coupar-Angus, "Princess 6th,"	8	0	0
2. William McCombie of Easter Skene, Skene, "Alexandrina,"	5	0	0
3. Sir George Macpherson Grant, Bart., Ballindalloch Castle, Ballindalloch, "Birth-day" (3373),	3	0	0
V. H. C., William James Tayler, Rothiemay House, Huntly, "Kate Darling" (3573). H. C., T. L. M. Cartwright, Melville House, Ladybank, "Mina 5th."			

## SHORTHORN.

## TWEEDDALE GOLD MEDAL.—Best SHORTHORN Animal in the Yard.

William Linton, Sheriff Hutton, York, "Sir Arthur Ingram" (£21).

## SECTION 14. BULLS calved before 1st January 1876.

1. William Linton, Sheriff Hutton, York, "Sir Arthur Ingram" (32,490),	25	0	0
2. W. A. Mitchell, Anchnagathie, Whitehouse, Aberdeen, "Duke of Chambergh" (36,052),	15	0	0
3. Thomas Willis, jun., Manor House, Carperby, Bedale, "Rear Admiral" (37,310), Breeder of Best Bull.—William Linton, Sheriff Hutton, York, Silver Medal,	10	0	0
V. H. C., William Handley, Greenhead, Milnthorpe, Westmoreland, "Royal Irwin" (35,383). M. C., James Bruce, Burnside, Fochabers, "Earl of March" (33,807). C., The Duke of Northumberland, Alnwick Castle, "Snowstorm" (37,496).			

## SECTION 15. BULLS calved after 1st January 1876.

1. Thomas Willis, jun., Carperby, Bedale, York, "Vice-Admiral" (39,257),	25	0	0
2. Andrew Hamilton Tyndall Bruce of Falkland, Ladybank, Fife, "Prince of Falkland,"	15	0	0
3. Joseph Forster, Small Burns, Langley Mills, Northumberland, "Prince of the Isles" (38,939)	10	0	0
H. C., Evan Baillie of Dochfour, Inverness, "Oliver Cromwell." C., Lord Polwarth, Mertoun House, St Boswells, "Waverley" (39,298).			

Carry forward, £456 10 0

Brought forward, £456 10 0

## SECTION 16. BULLS calved after 1st January 1877.

1. William Handley, Greenhead, Milnthorpe, Westmoreland, "Lord St Vincent,"	15	0	0
2. Charles Stirling Home Drummond Moray of Abercairny, Crieff, "Prince Alfred,"	10	0	0
3. James Bruce, Burnside, Fochabers, "Lord Walter,"	5	0	0
C., The Duke of Richmond and Gordon, K.G., Gordon Castle, Fochabers, "Fairfax Royal."			

First Prize Cow at Aberdeen—Exhibited for Medium Gold Medal.

Aberdeen, 1876, when the property of the present Exhibitor—William A. Mitchell, Auchnagathle, Whitehouse, Aberdeen, "Alma,"	5	0	0
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## SECTION 17. COWS of any Age.

1. James Beattie, Newbie House, Annan, "Blooming Daisy,"	20	0	0
2. Benjamin St John Ackers, Prinknash Park, Painswick, Gloucestershire, "Princess George,"	10	0	0
3. Jonathan Angus, Broomley, Stocksfield-on-Tyne, "Gaiety 3d,"	5	0	0
V. H. C., Her Majesty the Queen, The Prince Consort's Shaw Farm, Windsor, "Cold-cream." H. C., James White, Aldbro Farm, Darlington, "Lady Hopewell,"			
C., William Handley, Greenhead, Milnthorpe, Westmoreland, "Lily Windsor"			

## SECTION 18. HEIFERS calved after 1st January 1876.

1. George Ashby Ashby, Naseby Wooleys, Northamptonshire, "Innocence,"	15	0	0
2. The Duke of Northumberland, Alnwick Castle, Alnwick, "Lady Jane,"	10	0	0
3. The Duke of Richmond and Gordon, K.G., Gordon Castle, Fochabers, "Chief Lustre,"	5	0	0
V. H. C., The Duke of Richmond and Gordon, K.G., Gordon Castle, Fochabers, "Lady Killerby." H. C., Her Majesty the Queen, Abergeldie, Ballater, "Princess Beatrice." C., George Ashby Ashby, Naseby Wooleys, Northamptonshire, "Dorothy."			

## SECTION 19. HEIFERS calved after 1st January 1877.

1. James Whyte, Aldbro Farm, Darlington, "Stanwick Rose,"	10	0	0
2. The Duke of Richmond and Gordon, K.G., Gordon Castle, Fochabers, "Lady Evelyn Hope,"	8	0	0
3. The Duke of Northumberland, Alnwick Castle, Alnwick, "White Pebble,"	4	0	0
C., Jonathan Angus, Broomley, Stocksfield-on-Tyne, "Gaiety 5th."			

## AYRSHIRE.

## SECTION 20. BULLS calved before 1st January 1876.

1. Duncan Keir, Bucklyvie, "Borland,"	20	0	0
2. The Duke of Buccleuch and Queensberry, K.G., Drumlanrig, Thornhill, "Marquis of Drumlanrig" (40),	10	0	0
3. John Thomson, Avonhead, Airdrie, "King Carthus,"	5	0	0
Breeder of Best Bull—Duncan Mackay, Balfon, Silver Medal,	0	16	0
V. H. C., Duncan C. Willison, Dalpeddar, Sanquhar, "Balfon." H. C., Andrew M'Dowall, Auchtralure, Stranraer, "James 1st." C., Sir Michael R. Shaw Stewart of Ardgowan, Bart., Inverkip, "The Prince."			

## SECTION 21. BULLS calved after 1st January 1876.

1. The Duke of Buccleuch and Queensberry, K.G., Drumlanrig, Thornhill, "Morning Star" (43),	20	0	0
2. The Duke of Buccleuch and Queensberry, K.G., "The Duke" (19),	10	0	0
3. Thomas Ballantyne, Netherton, East Kilbride, "Kilbirnie,"	5	0	0
V. H. C., James Wilson, Boghall, Houston, "The Duke." H. C., Robert Wardrop, Gariaff, Cumnock, "Evermore." C., Matthew S. M'Kerrow, Boreland of Southwick, Dumfries, "Black Prince."			

## SECTION 22. BULLS calved after 1st January 1877.

1. The Duke of Buccleuch and Queensberry, K.G., Drumlanrig, Thornhill, "Douglas of Drumlanrig,"	10	0	0
2. William Guthrie, Athole Arms, Ayr, "Geordie,"	5	0	0
3. James Williamson, Greenhead, Wishaw, "Young Marquis,"	3	0	0
V. H. C., John Melkie, Seafeld, Bathgate, "Beaconsfield." H. C., D. C. Willison, Dalpeddar, Sanquhar, "Prince Charlie."			

Carry forward, £667 6 0

Brought forward, £667 6 0

First Prize Cow at Aberdeen—Exhibited for Medium Gold Medal.

Aberdeen, 1876, when the property of John M. Martin, yr. of Auchendennan—  
The Duke of Buccleuch and Queensberry, K.G., Drumlanrig, "Frost of  
Drumlanrig" (186), . . . . . 6 2 0

## SECTION 23. COWS in Milk, calved before 1st January 1875.

- |   |    |   |   |
|---|----|---|---|
| 1. John Melkie, Seafield, Bathgate, "Cowbonnie," . . . . .  | 20 | 0 | 0 |
| 2. The Duke of Buccleuch and Queensberry, K.G., "Rosie 2d of Drumlanrig" (372), . . . . .   | 10 | 0 | 0 |
| 3. J. & J. Moffat, Gateside, Sanquhar, "Sony," . . . . .  | 5  | 0 | 0 |
| V. H. C., The Duke of Buccleuch and Queensberry, K.G., "Gebble 2d of Drumlanrig" (193). H. C., John Brown, Lissensmoss, "Pride of Greenfield," C., The Duke of Buccleuch and Queensberry, K.G., "Mearns of Drumlanrig." |    |   |   |

## SECTION 24. COWS in Milk, calved after 1st January 1875.

- |   |    |   |   |
|---|----|---|---|
| 1. H. D. B. Hyslop, Tower, Sanquhar, "Contentment," . . . . .                   | 15 | 0 | 0 |
| 2. John Caldwell, Bogside, Dundonald, "Sprightly," . . . . .                    | 10 | 0 | 0 |
| 3. Robert Wilson, Forehouse, Kilbarchan, "Kirsty," . . . . .                    | 5  | 0 | 0 |
| V. H. C., The Duke of Buccleuch and Queensberry, K.G., Drumlanrig, "Lady Jane." |    |   |   |

## SECTION 25. COWS in Calf, of any age, or HEIFERS in Calf, calved before 1st January 1876.

- |  |    |   |   |
|--|----|---|---|
| 1. The Duke of Buccleuch and Queensberry, K.G., Drumlanrig, "Nora of Drumlanrig" (328), . . . . .  | 15 | 0 | 0 |
| 2. The Duke of Buccleuch and Queensberry, K.G., "Kenmore of Drumlanrig" (376), . . . . .   | 10 | 0 | 0 |
| 3. Robert Wilson, Forehouse, Kilbarchan, "Jess," . . . . .   | 5  | 0 | 0 |
| V. H. C., The Hon. G. R. Vernon, Auchans House, Kilmarnock, "Dahla 2d." H. C., William Hunter, Craighead, Abington, "Snowflake" (385). C., William Young, Threave Mains, Keltonhill, Castle Douglas, "Gracie." |    |   |   |

## SECTION 26. HEIFERS calved after 1st January 1876.

- |   |    |   |   |
|---|----|---|---|
| 1. The Duke of Buccleuch and Queensberry, K.G., Drumlanrig, Thornhill, "Snowflake of Drumlanrig," . . . . .   | 10 | 0 | 0 |
| 2. The Duke of Buccleuch and Queensberry, K.G., "Daisy of Drumlanrig" (123), . . . . .  | 6  | 0 | 0 |
| 3. The Duke of Buccleuch and Queensberry, K.G., "Mary of Drumlanrig" (295), . . . . .   | 4  | 0 | 0 |
| V. H. C., William Hunter, Craighead, Abington, "Lady Emily" (250). H. C., Sir Michael R. Shaw Stewart of Ardgowan, Bart., Inverkip, "Fancy." C., The Duke of Buccleuch and Queensberry, K.G., "Maud of Drumlanrig" (297). |    |   |   |

## SECTION 27. HEIFERS calved after 1st January 1877.

- |   |   |   |   |
|---|---|---|---|
| 1. Andrew M'Dowall, Auchtralure, Stranraer, "Jean," . . . . .   | 8 | 0 | 0 |
| 2. The Duke of Buccleuch and Queensberry, K.G., Drumlanrig, Thornhill, "Bella 5th of Drumlanrig," . . . . .   | 5 | 0 | 0 |
| 3. The Duke of Buccleuch and Queensberry, K.G., "Bessie of Drumlanrig," . . . . .   | 3 | 0 | 0 |
| V. H. C., James Williamson, Greenhead, Wishaw, "Beauty." H. C., Andrew M'Dowall, Auchtralure, Stranraer, "Dorah." C., D. C. Wilson, Dalpaddar, Sanquhar, "Princey." |   |   |   |

## HIGHLAND.

First Prize Bull at Aberdeen—Exhibited for Medium Gold Medal.

Aberdeen 1876, when the property of the present Exhibitor—John Grant, Inverlaidnan, Carrbridge, "Wallace," . . . . . 5 0 0

## SECTION 28. BULLS calved before 1st January 1876.

- |  |    |    |   |
|--|----|----|---|
| 1. John Stewart, Duntulm, Portree, "A'n Teileanach" (Islander), . . . . .    | 20 | 0  | 0 |
| 2. The Earl of Breadalbane, Taymouth Castle, Aberfeldy, "Roanull," . . . . . | 10 | 0  | 0 |
| 3. James Duncan of Benmore, Greenock, "Roderick Dhu," . . . . .              | 5  | 0  | 0 |
| Breeder of Best Bull—John Stewart, Duntulm, Portree, . . . . . Silver Medal, | 0  | 16 | 0 |
| V. H. C., John Stewart, Duntulm, Portree, "Troda."                           |    |    |   |

## SECTION 29. BULLS calved after 1st January 1876.

- |  |    |   |   |
|--|----|---|---|
| 1. John Stewart, Duntulm, Portree, "Prionnsa Tearlach," . . . . .  | 20 | 0 | 0 |
| 2. William Hunter Marshall, of Callander, Callander House, Callander, "Mo Reannuighe Gleannach," . . . . . | 10 | 0 | 0 |
| 3. B. Irving, Barndennoch, Auldgrith, Dumfries, "Rannoch," . . . . .                                       | 5  | 0 | 0 |

Carry forward, £880 4 0

		Brought forward,	£880 4 0
SECTION 30. COWS of any age.			
1. The Earl of Seafield, Castle Grant, Grantown, "Countess,"	.	.	15 0 0
2. John Stewart, Duntulm, Portree, "Targheal Og,"	.	.	8 0 0
3. William Hunter Marshall, of Callander, Callander House, Callander, "Collichallin,"	.	.	4 0 0
SECTION 31. HEIFERS calved after 1st January 1875.			
1. John Stewart, Duntulm, Portree, "Maighdean Og,"	.	.	10 0 0
2. The Earl of Seafield, Castle Grant, Grantown, "Spey,"	.	.	5 0 0
3. James Duncan, of Benmore, Greenock, "Clementina,"	.	.	3 0 0
SECTION 32. HEIFERS calved after 1st January 1876.			
1. John Stewart, Duntulm, Portree, "Rìbhinn Lurach,"	.	.	8 0 0
2. The Earl of Seafield, Castle Grant, Grantown, "Victoria,"	.	.	4 0 0
3. William Hunter Marshall of Callander, Callander House, Callander, "Kate,"	.	.	2 0 0
C., William Hunter Marshall of Callander, Callander House, Callander, "Maid of Jura, 2d."			
FAT STOCK.			
SECTION 33. GALLOWAY OXEN calved after 1st January 1875.			
1. The Earl of Galloway, Galloway House, Garliestown,	.	.	6 0 0
SECTION 34. GALLOWAY OXEN calved after 1st January 1876.			
1. The Earl of Galloway, Galloway House, Garliestown,	.	.	5 0 0
SECTION 35. HIGHLAND OXEN calved after 1st January 1874.			
1. The Earl of Seafield, Castle Grant, Grantown, "Donald,"	.	.	6 0 0
2. Laurence Dalgleish of Pitfirrane, Keavil, Dunfermline,	.	.	3 0 0
C., Laurence Dalgleish of Pitfirrane, Keavil, Dunfermline.			
SECTION 36. HIGHLAND OXEN calved after 1st January 1875.			
1. The Earl of Seafield, Castle Grant, Grantown, "Roy,"	.	.	5 0 0
2. The Earl of Seafield, Castle Grant, Grantown, "Geordie,"	.	.	2 0 0
SECTION 37. OXEN of any other Pure or Cross Breed calved after 1st January 1875.—No Entry.			
SECTION 38. OXEN of any other Pure or Cross Breed calved after 1st January 1876.			
1. Robert Jardine of Castlemilk, Lockerbie,	.	.	5 0 0
2. Robert Jardine of Castlemilk, Lockerbie,	.	.	2 0 0
SECTION 39. GALLOWAY HEIFERS calved after 1st January 1875.—No Entry.			
SECTION 40. GALLOWAY HEIFERS calved after 1st January 1876.			
1. James Biggar, Grange Farm, Dalbeattie,	.	.	5 0 0
SECTION 41. CROSS-BRED HEIFERS calved after 1st January 1875.—No Entry.			
EXTRA CATTLE.			
Very Highly Commended.			
Ayrshire Bull, "Rival of Drumlanrig" (52), winner of First Prize at Edinburgh in 1877, belonging to the Duke of Buccleuch and Queensberry, K.G.,			
Medium Gold Medal,			6 2 0
Highly Commended.			
Alderney Bull, "Islander," John Johnstone of Halleaths, Lochmaben, Silver Medal,			0 16 0
Commended.			
Alderney Cow, "Beauty," John Johnstone of Halleaths, Lochmaben,			
Medium Silver Medal,			0 10 6
Alderney Heifer, "Polly," John Johnstone of Halleaths, Lochmaben,			
Medium Silver Medal,			0 10 6
Alderney Heifer, "Fanny," John Johnstone of Halleaths, Lochmaben,			
Medium Silver Medal,			0 10 6
Japanese Bull, John Bell Irving of Whitehill, Lockerbie,			0 10 6
Japanese Heifers, John Bell Irving of Whitehill, Lockerbie,			0 10 6

**CLASS II.—HORSES**  
**FOR AGRICULTURAL PURPOSES.**

**BEST STALLION for Agricultural purposes.**

David Riddell, Blackhall, Paisley, "Darnley," . . . . . Silver Cup, £25 0 0

**BEST MARE for Agricultural purposes.**

Alexander Baird of Urle, Stonehaven, "Jess," . . . . . Silver Cup, 25 0 0

**SECTION 1. STALLIONS foaled before 1st January 1875.**

1. Peter Crawford, Dumgoyack, Strathblane, "Ivanhoe," . . . . .	40 0 0
2. David Riddell, Blackhall, Paisley, "Prince of Altyre," . . . . .	30 0 0
3. David Riddell, Blackhall, Paisley, "Pride of Clyde," . . . . .	20 0 0
4. James Johnston, Lochburnie, Maryhill, "Landsman," . . . . .	10 0 0
Breeder of Best Stallion—William Hunter, Machribeg, Campbeltown. Silver Medal,	0 16 0
V. H. C., Hugh Andrew, Lennoxlove, Haddington, "Lothian Chief," H. C.,	
Robert Andrew, Allans, Paisley, "Boydstone Boy." C., David Riddell, Black-	
hall, Paisley, "Gentleman."	

**SECTION 2. ENTIRE COLTS foaled after 1st January 1875.**

1. John Hendrie of Larbert, Stirlingshire, "Druid," . . . . .	30 0 0
2. Andrew Montgomery, Bolland, Castle-Douglas, "Bonnie Scotland," . . . . .	20 0 0
3. Peter Crawford, Dumgoyack, Strathblane, "Strathclyde," . . . . .	10 0 0
4. Alexander Galbraith, Croy Cunningham, Killearn, "Apollo," . . . . .	5 0 0
V. H. C., John Howatson, Fulwood, Stewarton, "General Nile." H. C., David	
Riddell, Blackhall, Paisley, "Chancellor." C., Charles Lawson, Decbank, Cults,	
Aberdeen, "Black Tom "	

**SECTION 3. ENTIRE COLTS foaled after 1st January 1876.**

1. James Johnston, Lochburnie, Maryhill, "Roderick Dhu," . . . . .	20 0 0
2. John Waddell of Inch, Bathgate, "Duke of Hamilton," . . . . .	14 0 0
3. R. F. Campbell of Craigie, Ayr, "The Major," . . . . .	7 0 0
4. Peter Crawford, Dumgoyack, Strathblane, "Alexander," . . . . .	4 0 0
V. H. C., David Riddell, Blackhall, Paisley. H. C., James Biggar, Grange Farm,	
Dalbeattie, "Lord Beaconsfield." C., Alex. Archibald, Cleaves, Dalry, Ayr,	
"President."	

**SECTION 4. ENTIRE COLTS foaled after 1st January 1877.**

1. The Earl of Dunmore, Dunmore, Stirling, "Blair Athole," . . . . .	15 0 0
2. George Craik, Glentoo, Castle-Douglas, "Pride o' Dec," . . . . .	8 0 0
3. The Earl of Strathmore, Glamis Castle, Glamis, "Chancellor," . . . . .	4 0 0
4. James Kilpatrick, Craigie Mains, Craigie, Ayr, "Sir Robert Bruce," . . . . .	2 0 0
V. H. C., Peter Crawford, Dumgoyack, Strathblane, "Craighmore Bob." H. C.,	
John Thomson, Blaiket, Crockettford, "His Grace." C., John Waddell of Inch,	
Bathgate, "Prince George."	

**SECTION 5. MARES (with Foal at foot) foaled before 1st January 1875.**

1. Lawrence Drew, Merryton, Hamilton, "Sheba," . . . . .	30 0 0
2. James Cunningham, Tarbreoch, Dalbeattie, "Jean," . . . . .	20 0 0
3. Lawrence Drew, Merryton, Hamilton, "Betsy," . . . . .	15 0 0
4. John Thompson, Balllieknowe, Kelso, "Kelso Maggie," . . . . .	6 0 0
V. H. C., John Clarke, Spindlehove, Uddingston, "Rose of Bute." H. C., John	
Waddell of Inch, Bathgate, "Darling." C., Wm. M'Master, Challock, Dun-	
ragit, "Nell."	

**First Prize Mare at Aberdeen—Exhibited for Medium Gold Medal.**

Aberdeen 1876, when with foal at foot, and the property of Alexander Buchanan, Garscadden Mains.

David Buchanan, Garscadden Mains, New Kilpatrick, "Maggie." 5 0 0

Carry forward, £365 16 0



## PREMIUMS AWARDED BY THE SOCIETY IN 1878.

	Brought forward,	£365 16 0
SECTION 6. MARES (in Foal) foaled before 1st January 1875.		
1. Alex. Baird of Eurie, Stonehaven, "Jess,"	.	25 0 0
2. Lawrence Drew, Merryton, Hamilton, "Queen,"	.	15 0 0
3. Lawrence Drew, Merryton, Hamilton, "Countess,"	.	10 0 0
4. Lawrence Drew, Merryton, Hamilton, "Regina,"	.	5 0 0
V. H. C., Alexander Galbraith, Croy Cunningham, Killearn, "Topsy." H. C., David Buchanan, Garscadden Mains, New Kilpatrick, "Maggie." C., Lawrence Drew, Merryton, Hamilton, "Myra."		

SECTION 7. FILLIES foaled after 1st January 1875.		
1. John M. Martin, Auchendennan, Farm, Balloch, "Damsel,"	.	20 0 0
2. James Picken, Leigh Langside, Craigie, Kilmarnock, "Young Darling,"	.	10 0 0
3. John Waddell of Inch, Bathgate, "Melita,"	.	5 0 0
4. Lawrence Drew, Merryton, Hamilton, "Jemima,"	.	3 0 0
V. H. C., David Riddell, Blackhall, Paisley. H. C., Thomas Kerr, Whitehills, Sanquhar, "Missie." C., John Harvie, Langton, Newton Mearns, "Langton Lass."		

SECTION 8. FILLIES foaled after 1st January 1876.		
1. John M. Martin, Auchendennan Farm, Balloch, "Effie Deans,"	.	15 0 0
2. Alexander Baird of Urie, Stonehaven, "Lovely,"	.	8 0 0
3. James Cunningham, Tarbreoch, Dalbeattie, "Evelyn,"	.	4 0 0
4. James Hunter, Coplawhill, Strathbungo, Glasgow, "Jeanie,"	.	2 0 0
V. H. C., Lawrence Drew, Merryton, Hamilton. H. C., Lawrence Drew, Merryton, Hamilton. C., John Ralston, Millmain, Stranraer, "Lady Janet."		

SECTION 9. FILLIES foaled after 1st January 1877.		
1. Andw. Montgomery, Boreland, Castle Douglas, "Jeannie Sproat,"	.	10 0 0
2. William Montgomery, Banks, Kirkcudbright, "Dandy,"	.	5 0 0
3. Alex. Rankin, Aird, Stranraer, "Young Mary,"	.	3 0 0
4. John M. Martin, Auchendennan, Farm, Balloch, "Deborah Debbitch,"	.	2 0 0
V. H. C., Andrew M'Dowall, Auchtralure, Stranraer, "Nell." H. C., James M'Queen of Crofta, Dalbeattie, "Dandie." C., Sir Michael R. Shaw Stewart of Ardgowan, Bart., Inverkip, "Pansy."		

SECTION 10. DRAUGHT GELDINGS foaled before 1st January 1875.		
1. James Walker, St Ann Street, Glasgow, "Lofty,"	.	10 0 0
2. The Duke of Buccleuch and Queensferry, K.G., Drumlanrig, Thornhill, "Lofty,"	.	5 0 0
3. John Waddell of Inch, Bathgate "Harry,"	.	3 0 0
V. H. C., Alex. Millicrick, Bush on Esk, Longtown, "Jock." H. C., Captain A. Maxwell of Torregles, Dumfries, "Bruce."		

SECTION 11. DRAUGHT GELDINGS foaled after 1st January 1875.		
1. Lawrence Drew, Merryton, Hamilton, .	.	8 0 0
2. Matthew Henderson, Mile Farm, Ardrossan, "Victor,"	.	4 0 0
3. Robert Barbour, Gillfoot, Kirkbean, Dumfries, "Prince,"	.	2 0 0
V. H. C., James C. Austin, Ironhirst, Mouswald, Dumfries, "Jack." C., John Houston, Overlaw, Kirkcudbright, "Prince."		

## HUNTERS AND ROADSTERS.

SECTION 12. BROOD MARES, with Foal at foot, suitable for field.		
1. Simon Beattie, Preston Hall, Annan, "Membrino Belle,"	.	20 0 0
2. John M'Kie, Ernespie, Castle-Douglas, .	.	10 0 0
3. R. G. Graham, Burnfoot on Esk, Longtown, "Sister to Jester,"	.	5 0 0
C., W. J. Donald, Annan, "Fanny."		

SECTION 13. MARES or GELDINGS suitable for field, foaled before 1st January 1874.		
1. Archibald Kerr, Kilnpotheas, Lockerbie, Gelding, "Patch Work,"	.	20 0 0
2. Matthews Hodgson, Dykesfield, Burgh by Sands, Carlisle, Gelding, "Major,"	.	10 0 0
3. David Dobie, Tinwald Parks, Dumfries, Gelding, "Herbert,"	.	5 0 0

Carry forward, £609 16 0

	Brought forward,	£609 16 0
SECTION 14. MARES or GELDINGS suitable for field, foaled before 1st January 1875.		
1. Samuel Jack, Mersington, Coldstream, "Royal Duke,"	.	15 0 0
2. William Graham, Westlinton, Carlisle, "The Dutchman,"	.	8 0 0
3. Bethune George Walker Morison, Falfield House, Cupar Fife, "Blair Athole,"	.	4 0 0
SECTION 15. MARES or GELDINGS suitable as hackneys or road- sters, between 14 and 15 hands high.		
1. M. Thompson & Sons, Kirkhouse, Milton, Carlisle, "Nora,"	.	8 0 0
2. Capt. A. Maxwell of Terregles, Dumfries, "Sir William,"	.	4 0 0
3. Walter Johnstone, Alton, Moffat, "Marquis,"	.	2 0 0
SECTION 16. STALLIONS, MARES, or GELDINGS for Leaping.		
1. Simon Beattie, Preston Hall, Annan, "The Turk,"	.	10 0 0
2. Henry Welsh, 13 Minto Street, Edinburgh, "Hardengreen,"	.	5 0 0
3. Lieutenant-Col. Fletcher Hathorn of Castlewigg, Whithorn, "Vanity Fair,"	.	3 0 0
PONIES.		
SECTION 17. HIGHLAND STALLIONS, 14½ hands high and under.		
1. Sir George Douglas Clerk of Penicuik, Bart., Penicuik, "Blackbird,"	.	6 0 0
2. Alexander Pattillo, Dares, Inverness, "Beaconsfield,"	.	3 0 0
SECTION 18. HIGHLAND MARES or GELDINGS between 13 and 14½ hands high.		
1. Duncan Turner, V.S., Biggar, mare, "Jenny Lind,"	.	6 0 0
SECTION 19. MARES or GELDINGS between 12½ and 14 hands high.		
1. Miss Nixon, Bowsteadhill, Carlisle, mare, "Fanny Fashion,"	.	6 0 0
2. Mrs Fletcher, Keltonhouse, Dumfries, mare, "Nelly,"	.	3 0 0
3. Hugh Calder, Commercial Hotel, Dumfries, mare, "Fanny,"	.	1 0 0
SECTION 20. MARES or GELDINGS, under 12½ hands.		
1. John Watson, Edinburgh Road, Dalkeith, mare, "Beauty,"	.	6 0 0
2. John M'Kie, Ernespie, Castle-Douglas, mare, "Polly Perkins,"	.	3 0 0
3. Thomas Deans, Burn Farm, Stapleton, Annan, gelding, "Donald,"	.	1 0 0
EXTRA HORSES.		
Thoroughbred Stallion, "Loaf Sugar" (winner of First Prize at Dumfries in March 1878). M. Teenan, Lochside, Dumfries.	.	50 0 0
Commended.		
Thoroughbred Stallion, "Trip the Daisy," Jas. Church, Sark Tower, Canonbie, Medium Silver Medal	.	0 10 6
Thoroughbred Colt, "Mandarin," John M'Kie, Ernespie, Castle-Douglas, Medium Silver Medal,	.	0 10 6
Charles W. Scott, Woodbank, Dumfries, gelding, "Garwood," Medium Silver Medal,	.	0 10 6
		<hr/> £755 7 6 <hr/>

## CLASS III.—SHEEP.

## CHEVIOT.

## SECTION 1. TUPS 3 Shear and upwards.

1. John A. Johnstone, Archbank, Moffat.	.	£8 0 0
2. James Brydon, jun., Holm of Dalquhain, Carsphairn, Galloway,	.	4 0 0
3. Thomas Elliot, Hindhope, Jedburgh,	.	2 0 0
V. H. C., James Brydon, Kinnelhead, Moffat. H. C., Thomas Welsh, Ericstane, Moffat. C., Thomas Welsh, Ericstane, Moffat.		

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Carry forward, £14 0 0

Brought forward, £14 0 0

## SECTION 2. TUPS 2 Shear.

1. John A. Johnstone, Archbank, Moffat . . . . .	12 0 0
2. James Brydon, jr., Holm of Dalquhairn, Carsphairn, Galloway, . . . . .	8 0 0
3. James Brydon, Kinnelhead, Moffat, . . . . .	4 0 0
V. H. C., James Brydon, Kinnelhead, Moffat. H. C., James Brydon, jun., Holm of Dalquhairn, Carsphairn, Galloway. C., Thomas Elliot Hindhope, Jedburgh.	

## SECTION 3. SHEARLING TUPS.

1. James Brydon, Kinnelhead, Moffat, . . . . .	12 0 0
2. Thomas Elliot, Hindhope, Jedburgh, . . . . .	8 0 0
3. James Brydon, Kinnelhead, Moffat, . . . . .	4 0 0
V. H. C., Thomas Welsh, Ericstane, Moffat. H. C., John A. Johnstone, Archbank, Moffat. C., Thomas Elliot, Hindhope, Jedburgh.	

## SECTION 4. Pens of 5 EWES above 1 Shear, with Lambs.

1. James Brydon, Kinnelhead, Moffat, . . . . .	10 0 0
2. Thomas Elliot, Hindhope, Jedburgh, . . . . .	5 0 0
3. Thomas Welsh, Ericstane, Moffat, . . . . .	2 0 0
V. H. C., Robert M'Gregor, Bellridding, Dumfries.	

## LAMBS.

1. James Brydon, Kinnelhead, Moffat, . . . . .	2 0 0
2. Thomas Welsh, Ericstane, Moffat, . . . . .	1 0 0

## SECTION 5. Pens of 5 SHEARLING EWES or GIMMERS.

1. Thomas Elliot, Hindhope, Jedburgh, . . . . .	10 0 0
2. David Mundell, Gollanfield, Fort George Station, . . . . .	5 0 0
3. James Brydon, Appin, Tynron, . . . . .	2 0 0
V. H. C., James Brydon, Kinnelhead, Moffat.	

## BLACKFACED.

## SECTION 6. TUPS 3 Shear and upwards.

1. William Todd, Glenree, Lamlash, . . . . .	8 0 0
2. John Fleming, Ploughland, Strathaven, . . . . .	4 0 0
3. James Greenshields, West Town, Lesmahagow, . . . . .	2 0 0
V. H. C., James M'Kersie, East Glenbuck, Muirkirk. H. C., James Greenshields, West Town, Lesmahagow. C., James Brydon, Kinnelhead, Moffat.	

## SECTION 7. TUPS 2 Shear.

1. David Foyer, Knowehead, Lennoxton, Campsie, . . . . .	12 0 0
2. James M'Kersie, East Glenbuck, Muirkirk, . . . . .	8 0 0
3. John Fleming, Ploughland, Strathaven, . . . . .	4 0 0
V. H. C., John Watson, Culterallera, Biggar. H. C., Charles Howatson of Dornel, Mauchline. C., Patrick Melrose, West Loch, Eddlestone.	

## SECTION 8. SHEARLING TUPS.

1. Charles Howatson of Dornel, Mauchline, . . . . .	12 0 0
2. James Greenshields, West Town, Lesmahagow, . . . . .	8 0 0
3. Charles Howatson of Dornel, Mauchline, . . . . .	4 0 0
V. H. C., James Greenshields, West Town, Lesmahagow. H. C., J. & J. Moffat, Gateside, Sanquhar. C., J. & J. Moffat, Gateside, Sanquhar.	

## SECTION 9. Pens of 5 EWES above 1 Shear, with Lambs.

1. J. & J. Moffat, Gateside, Sanquhar, . . . . .	10 0 0
2. Patrick Melrose, West Loch, Eddlestone, . . . . .	5 0 0
3. Patrick Melrose, West Loch, Eddlestone, . . . . .	2 0 0

## LAMBS.

1. J. & J. Moffat, Gateside, Sanquhar, . . . . .	2 0 0
2. Patrick Melrose, West Loch, Eddlestone, . . . . .	1 0 0
V. H. C., Patrick Melrose, West Loch, Eddlestone.	

Carry forward, £181 0 0

	Brought forward,	£181	0	0
SECTION 10. Pens of 5 SHEARLING EWES or GIMMERS.				
1. David Foyer, Knowehead, Lennoxtown, Campsie, . . . . .	10	0	0	
2. Andrew A. Blues, Upper Minnigap, Dumfries, . . . . .	5	0	0	
3. J. & J. Moffat, Gateside, Sanquhar, . . . . .	2	0	0	
V. H. C., Andrew A. Blues, Upper Minnigap, Dumfries. H. C., Patrick Melrose, West Loch, Eddlestone.				

## BORDER LEICESTER.

## SECTION 11. TUPS above 1 Shear.

1. Arthur James Balfour of Whittinghame, M.P., Prestonkirk, . . . . .	12	0	0
2. Andrew Smith, Castlemains, Gifford, . . . . .	8	0	0
3. G. Duff Dunbar, Ackergill Tower, Wick, . . . . .	4	0	0
V. H. C., George Torrance, Sisterpath, Dunse. H. C., James Nisbet, Lambden, Greenlaw, Dunse.			

## SECTION 12. SHEARLING TUPS.

1. The Marquis of Tweeddale, Yester, Haddington, . . . . .	12	0	0
2. Arthur James Balfour of Whittinghame, M.P., Prestonkirk, . . . . .	8	0	0
3. G. Duff Dunbar, Ackergill Tower, Wick, . . . . .	4	0	0
V. H. C., John Thompson, Baillicknowe, Kelso. H. C., T. Livingstone Learmonth of Parkhall, Polmont. C., Thomas Ferguson, Kinnochtry, Coupar-Angus.			

## SECTION 13. Pens of 5 EWES above 1 Shear.

1. James Nisbet, Lambden, Greenlaw, Dunse, . . . . .	10	0	0
2. Robert Calder, Little Swinton, Coldstream, . . . . .	5	0	0
3. Richard Tweedie, The Forest, Catterick, . . . . .	2	0	0
V. H. C., G. Duff Dunbar, Ackergill Tower, Wick.			

## SECTION 14. Pens of 5 SHEARLING EWES or GIMMERS.

1. James Nisbet, Lambden, Greenlaw, Dunse, . . . . .	10	0	0
2. The Marquis of Tweeddale, Yester, Haddington, . . . . .	5	0	0
3. Adam Smith, Stevenson Mains, Haddington, . . . . .	2	0	0
V. H. C., Richard Tweedie, The Forrest, Catterick. H. C., John Hill, Carllowrie, Cramond Bridge. C., Joseph and William Dinning, Nilstone Ridge, Langley Mills, Northumberland.			

## LEICESTER.

## SECTION 15. TUPS above 1 Shear.

1. Eric Sutherland, Rosevally, Burghhead, . . . . .	3	0	0
2. Eric Sutherland, Rosevally, Burghhead, . . . . .	2	0	0

## SECTION 16. SHEARLING TUPS.

1. Eric Sutherland, Rosevally, Burghhead, . . . . .	3	0	0
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## SECTION 17. Pens of 5 EWES above 1 Shear.

1. Eric Sutherland, Rosevally, Burghhead, . . . . .	3	0	0
---	---	---	---

## SECTION 18. Pens of 5 SHEARLING EWES or GIMMERS.—No Entry.

## COTSWOLD.

## SECTION 19. TUPS above 1 Shear.

1. Francis Gibson, Woolmet, Dalkeith, . . . . .	3	0	0
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## SECTION 20. SHEARLING TUPS.—No Entry.

## SECTION 21. Pens of 5 EWES above 1 Shear.

1. Francis Gibson, Woolmet, Dalkeith, . . . . .	3	0	0
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## SECTION 22. Pens of 5 SHEARLING EWES or GIMMERS.

1. Francis Gibson, Woolmet, Dalkeith, . . . . .	3	0	0
---	---	---	---

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 Carry forward, £300 0 0

Carry forward, £300 0 0

## LINCOLN.

## SECTION 23. TUPS above 1 Shear.

1. John Bell Irving of Whitehill, Lockerbie, . . . . .	3 0 0
2. Thomas Wilkin, Tinwald Downs, Dumfries, . . . . .	2 0 0
3. Thomas Wilkin, Tinwald Downs, Dumfries, . . . . .	1 0 0
V. H. C., Thomas Wilkin, Tinwald Downs, Dumfries. H. C., John Bell Irving of Whitehill, Lockerbie. C., Thomas Wilkin, Tinwald Downs, Dumfries.	

## SECTION 24. SHEARLING TUPS.

1. John Bell Irving of Whitehill, Lockerbie . . . . .	3 0 0
2. Thomas Wilkin, Tinwald Downs, Dumfries, . . . . .	2 0 0
3. J. O. Trotter, Denby Farm, Bedale, Yorkshire, . . . . .	1 0 0
V. H. C., J. O. Trotter, Denby Farm, Bedale, Yorkshire. H. C., John Bell Irving of Whitehill, Lockerbie. C., Thomas Wilkin, Tinwald Downs, Dumfries.	

## SECTION 25. Pen of EWES above 1 Shear.

1. Thomas Wilkin, Tinwald Downs, Dumfries, . . . . .	3 0 0
2. Thomas Wilkin, Tinwald Downs, Dumfries, . . . . .	2 0 0

## SECTION 26. Pens of 5 SHEARLING EWES or GIMMERS.

1. Thomas Wilkin, Tinwald Downs, Dumfries, . . . . .	3 0 0
3. John Bell Irving of Whitehill, Lockerbie, . . . . .	2 0 0

## SOUTHDOWN.

## SECTION 27. TUPS above 1 Shear.—No Entry.

## SECTION 28. SHEARLING TUPS.—No Entry.

## SECTION 29. Pens of 5 EWES above 1 Shear.—No Entry.

## SECTION 30. Pens of 5 SHEARLING EWES or GIMMERS.—No Entry.

## SHROPSHIRE.

## SECTION 31. TUPS above 1 Shear.

1. Lord Polwarth, Humble, Upper Keith, . . . . .	3 0 0
2. Francis Gibson, Woolmet, Dalkeith, . . . . .	2 0 0

## SECTION 32. SHEARLING TUPS.

1. Francis Gibson, Woolmet, Dalkeith, . . . . .	3 0 0
2. Lord Polwarth, Humble, Upper Keith, . . . . .	2 0 0
3. The Earl of Zetland, Aske, Richmond, Yorkshire, . . . . .	1 0 0
V. H. C., The Earl of Zetland, Aske, Richmond, Yorkshire. H. C., The Earl of Zetland. C., Lord Polwarth, Humble, Keith.	

## SECTION 33. Pens of 5 EWES above 1 Shear.

1. Francis Gibson, Woolmet, Dalkeith, . . . . .	3 0 0
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## SECTION 34. Pens of 5 SHEARLING EWES or GIMMERS.

1. Francis Gibson, Woolmet, Dalkeith, . . . . .	3 0 0
2. The Earl of Zetland, Aske, Richmond, Yorkshire, . . . . .	2 0 0

## EXTRA SECTIONS.

## SECTION 35. Pens of 5 CHEVIOT WETHERS, not above 3 Shear.

1. Thomas Irving, Curriestanes, Dumfries, . . . . .	4 0 0
2. Thomas Irving, Curriestanes, Dumfries, . . . . .	2 0 0

## SECTION 36. Pens of 5 BLACKFACED WETHERS, not above 4 Shear.

1. Thomas Irving, Curriestanes, Dumfries, . . . . .	4 0 0
2. Thomas Irving, Curriestanes, Dumfries, . . . . .	2 0 0
V. H. C., John Willison, jun., Glenlochay, Killin. H. C., John Willison, jun., Glenlochay, Killin.	

## SECTION 37. Pens of 5 HALF-BRED WETHER HOGGS, not above 1 Shear.

1. Thomas Biggar of Chapelton, Dalbeattie, . . . . .	4 0 0
2. Thomas Irving, Curriestanes, Dumfries, . . . . .	2 0 0
V. H. C., Thomas Biggar of Chapelton, Dalbeattie.	

Carry forward, £359 0 0

Brought forward, £359 0 0

SECTION 38. Pens of 5 CROSS-BRED WETHER HOGGS, not above  
1 Shear.

- |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|
| 1. Thomas Irving, Curriestanes, Dumfries,             | . | . | . | . | 4 | 0 | 0 |
| 2. William Little, High Borgue, Kirkcudbright,        | . | . | . | . | 2 | 0 | 0 |
| V. H. C., William Little, High Borgue, Kirkcudbright. |   |   |   |   |   |   |   |

## EXTRA SHEEP.

## Highly Commended.

- |  |   |   |   |   |               |   |    |   |
|--|---|---|---|---|---------------|---|----|---|
| Five Wether Hoggs belonging to Walter Ovens, Torr, Auchencairn,<br>Castle-Douglas, | . | . | . | . | Silver Medal, | 0 | 16 | 0 |
|--|---|---|---|---|---------------|---|----|---|

## Commended.

- |  |   |   |   |   |                      |   |    |   |
|--|---|---|---|---|----------------------|---|----|---|
| Two Improved Teeswater Tups belonging to J. O. Trotter, Danby<br>House, Bedale, Yorkshire, | . | . | . | . | Medium Silver Medal, | 0 | 10 | 6 |
|--|---|---|---|---|----------------------|---|----|---|

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 £366 6 6

## CLASS IV.—WOOL.

## SECTION 1. Best WOOLLED TUPS, Cheviot Breed.

- |  |   |   |   |   |    |   |   |
|--|---|---|---|---|----|---|---|
| 1. James Brydon, Kinnelhead, Moffat,       | . | . | . | . | £5 | 0 | 0 |
| V. H. C., James Brydon, Kinnelhead, Moffat |   |   |   |   |    |   |   |

## SECTION 2. Best WOOLLED TUPS, Blackfaced Breed

- |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|
| 1. Charles Howatson of Dornel, Mauchline, | . | . | . | . | 5 | 0 | 0 |
|---|---|---|---|---|---|---|---|

## SECTION 3. Best WOOLLED TUPS, Leicester Breed.

- |   |     |  |   |   |   |   |   |
|---|-----|--|---|---|---|---|---|
| 1. Thomas Ferguson, Kinnochtry, Coupar-Angus, | .   | .                                      | . | . | 5 | 0 | 0 |
| V. H. C., John Thompson, Baillieknowe, Kelso. | .   | .                                      | . | . |   |   |   |
| H. C., Andrew Smith, Castlemains,<br>Gifford. | C., | G. Duff Dunbar, Ackergill Tower, Wick. |   |   |   |   |   |

## SECTION 4. Best WOOLLED TUPS, other Longwooled Breeds.

- |   |        |                                       |     |   |   |   |   |
|---|--------|---------------------------------------|-----|---|---|---|---|
| 1. John Bell Irving of Whitehill, Lockerbie,        | .      | .                                     | .   | .   | 5 | 0 | 0 |
| V. H. C., John Bell Irving of Whitehill, Lockerbie. | H. C., | Francis Gibson, Woolmet,<br>Dalkeith. | C., | John Bell Irving of Whitehill, Lockerbie. |   |   |   |

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 £20 0 0

## CLASS V.—SWINE.

## LARGE BREED.

## SECTION 1.—BOARS.

- |  |   |   |   |   |    |   |   |
|--|---|---|---|---|----|---|---|
| 1. Alfred Crowther, Star Inn, Bridge Street, Bury, Lancashire, | . | . | . | . | £8 | 0 | 0 |
|--|---|---|---|---|----|---|---|

## SECTION 2. SOWS.

- |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|
| 1. Alfred Crowther, Star Inn, Bury,             | . | . | . | . | 6 | 0 | 0 |
| 2. Thomas J. Grierson, Kelton Grange, Dumfries, | . | . | . | . | 3 | 0 | 0 |
| 3. Mrs Macalpine Leny of Dalswinton, Dumfries,  | . | . | . | . | 1 | 0 | 0 |

## SECTION 3. Pens of 3 PIGS, not above 8 months old

- |  |   |   |   |   |   |   |   |
|--|---|---|---|---|---|---|---|
| 1. Alfred Crowther, Star Inn, Bury,            | . | . | . | . | 4 | 0 | 0 |
| 2. Robert Wallace, Auchencrain, Mauchline,     | . | . | . | . | 2 | 0 | 0 |
| 3. Dr J. Batty Tuko, Saughton Hall, Edinburgh, | . | . | . | . | 1 | 0 | 0 |

## BLACK or BERKSHIRE.

## SECTION 4. BOARS.

- |  |   |   |   |   |   |   |   |
|--|---|---|---|---|---|---|---|
| 1. A. Peterkin Hope, Oxwell Main, Dunbar,                            | . | . | . | . | 8 | 0 | 0 |
| 2. Sir William Forbes of Craigievar, Bart., Fintray House, Aberdeen, | . | . | . | . | 4 | 0 | 0 |
| 3. The Marchioness of Queensberry, Kinmont, Annan,                   | . | . | . | . | 2 | 0 | 0 |

## SECTION 5. SOWS.

- |  |   |   |   |   |   |   |   |
|--|---|---|---|---|---|---|---|
| 1. Benjamin St John Ackers, Prinknash Park, Painswick,             | . | . | . | . | 6 | 0 | 0 |
| 2. Her Majesty the Queen, the Prince Consort's Shaw Farm, Windsor, | . | . | . | . | 3 | 0 | 0 |
| 3. Her Majesty the Queen, the Prince Consort's Shaw Farm, Windsor, | . | . | . | . | 1 | 0 | 0 |

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 Carry forward, £49 0 0

	Brought forward,	£49 0 0
SECTION 6. Pens of 3 PIGS, not above 8 months old.		
1. A. Peterkin Hope, Oxwell Mains, Dunbar,	.	4 0 0
2 A. Peterkin Hope, Oxwell Mains, Dunbar,	.	2 0 0
3. Sampson Samuel Lloyd, M.P., Moor Hall, Sutton Coldfield, Birmingham,	.	1 0 0

## SMALL BREED.

SECTION 7. BOARS.		
1. Alfred Crowther, Star Inn, Bury,	.	8 0 0

SECTION 8. SOWS.		
1. Alfred Crowther, Star Inn, Bury,	.	6 0 0
2. Her Majesty the Queen, the Prince Consort's Shaw Farm, Windsor,	.	3 0 0
3 Her Majesty the Queen, the Prince Consort's Shaw Farm, Windsor,	.	1 0 0

SECTION 9. Pens of 3 PIGS, not above 8 months old.—No Entry.

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 £74 0 0
 

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## CLASS VI.—POULTRY.

SECTION 1. DORKING, Silver Grey—Cock.		
1. Robert Wallace, Auchenbrain, Mauchline,	.	£1 0 0
2. Commander G. F. Lyon of Kirkmichael, R.N., Dumfries,	.	0 10 0

SECTION 2. DORKING, Silver Grey—2 Hens.		
1. Robert Shields, Enoch Bank, Thornhill,	.	1 0 0
2. James Cunningham, Tarbreoch, Dalbeattie,	.	0 10 0

SECTION 3. DORKING, Silver Grey—Cockerel.		
1. Commander G. F. Lyon of Kirkmichael, R.N., Dumfries,	.	1 0 0
2 Robert Wallace, Auchenbrain, Mauchline,	.	0 10 0

SECTION 4. DORKING, Silver Grey—2 Pullets.		
1 Commander G. F. Lyon of Kirkmichael, R.N., Dumfries,	.	1 0 0
2 W. F. Hunter Arundell, Barjarg Tower, Dumfries,	.	0 10 0

SECTION 5. DORKING, Coloured—Cock.		
1. Robert Wallace, Auchenbrain, Mauchline,	.	1 0 0

SECTION 6. DORKING, Coloured—2 Hens.		
1. Robert Wallace, Auchenbrain, Mauchline,	.	1 0 0
2. Thomas Armstrong, Abbey Town, Silloth,	.	0 10 0

SECTION 7. DORKING, Coloured—Cockerel.		
1. Sir George Macpherson Grant of Ballindalloch, Bart.,	.	1 0 0
2. Sir George Macpherson Grant of Ballindalloch, Bart.,	.	0 10 0

SECTION 8. DORKING, Coloured—2 Pullets.		
1. Sir George Macpherson Grant of Ballindalloch, Bart.,	.	1 0 0
2. Robert Wallace, Auchenbrain, Mauchline,	.	0 10 0

SECTION 9. COCHIN-CHINA—Cock.		
1. H. A. Clark, Prospect House, Aspatia,	.	1 0 0
2. A. Drybrough, 5 Ettrick Road, Merchiston, Edinburgh,	.	0 10 0

SECTION 10. COCHIN-CHINA—2 Hens.		
1. A. Drybrough, 5 Ettrick Road, Merchiston, Edinburgh,	.	1 0 0
2. George Maxwell of Glenlee, New Galloway,	.	0 10 0

SECTION 11. COCHIN-CHINA—Cockerel.		
1. Thomas Fullarton, Loans, Troon,	.	1 0 0
2. William Shaw, Margaret Cottage, Kilmarnock,	.	0 10 0

SECTION 12. COCHIN-CHINA—2 Pullets.		
1. William Shaw, Margaret Cottage, Kilmarnock,	.	1 0 0
2. A. Drybrough, 5 Ettrick Road, Merchiston, Edinburgh,	.	0 10 0

Carry forward, £17 10 0

Brought forward, £17 10 0

## SECTION 13. BRAMAHPOOTRA—Cock.

- |  |   |   |   |   |    |   |
|--|---|---|---|---|----|---|
| 1. Dr John Macrae, 46 Bensham Road, Gateshead-on-Tyne, | . | . | . | 1 | 0  | 0 |
| 2. John Sandeman, 15 Strathmartin Road, Dundee,        | . | . | . | 0 | 10 | 0 |

## SECTION 14. BRAMAHPOOTRA—2 Hens.

- |  |   |   |   |   |    |   |
|--|---|---|---|---|----|---|
| 1. John Sandeman, 15 Strathmartin Road, Dundee,                  | . | . | . | 1 | 0  | 0 |
| 2. Commander George Francis Lyon of Kirkmichael, R N., Dumfries, | . | . | . | 0 | 10 | 0 |

## SECTION 15. BRAMAHPOOTRA—Cockerel.

- |  |   |   |   |   |    |   |
|--|---|---|---|---|----|---|
| 1. Dr John Macrae, 46 Bensham Road, Gateshead-on-Tyne, | . | . | . | 1 | 0  | 0 |
| 2. George Ballantyne, Conhulth, Troqueer, Dumfries,    | . | . | . | 0 | 10 | 0 |

## SECTION 16. BRAMAHPOOTRA—2 Pullets.

- |  |   |   |   |   |    |   |
|--|---|---|---|---|----|---|
| 1. John R. Kennedy, Stenhouse, Thornhill,              | . | . | . | 1 | 0  | 0 |
| 2. Dr John Macrae, 46 Bensham Road, Gateshead-on-Tyne, | . | . | . | 0 | 10 | 0 |

## SECTION 17. SPANISH—Cock.

- |  |   |   |   |   |    |   |
|--|---|---|---|---|----|---|
| 1. Miss C. Biggar, Park House, Troqueer, Dumfries, | . | . | . | 1 | 0  | 0 |
| 2. Miss E. Biggar, Braes House, Ecclefechan,       | . | . | . | 0 | 10 | 0 |

## SECTION 18. SPANISH—2 Hens.

- |  |   |   |   |   |    |   |
|--|---|---|---|---|----|---|
| 1. Miss E. Biggar, Braes House, Ecclefechan, | . | . | . | 1 | 0  | 0 |
| 2. Thomas B. Retson, Sorn, Mauchline,        | . | . | . | 0 | 10 | 0 |

## SECTION 19. SPANISH—Cockerel.

- |                                     |   |   |   |   |    |   |
|-------------------------------------|---|---|---|---|----|---|
| 1. Mrs Gracie, Colinton, Edinburgh, | . | . | . | 1 | 0  | 0 |
| 2. James Norval, Hawkhill, Alloa,   | . | . | . | 0 | 10 | 0 |

## SECTION 20. SPANISH—2 Pullets

- |                                       |   |   |   |   |    |   |
|---------------------------------------|---|---|---|---|----|---|
| 1. Mrs Gracie, Colinton, Edinburgh,   | . | . | . | 1 | 0  | 0 |
| 2. Thomas B. Retson, Sorn, Mauchline, | . | . | . | 0 | 10 | 0 |

## SECTION 21. SCOTCH GREY—Cock.

- |  |   |   |   |   |    |   |
|--|---|---|---|---|----|---|
| 1. William Girdwood, Brownlie, Carluke,                | . | . | . | 1 | 0  | 0 |
| 2. Clarkson & Hamilton, Braidwood Tile Works, Carluke, | . | . | . | 0 | 10 | 0 |

## SECTION 22. SCOTCH GREY—2 Hens.

- |   |   |   |   |   |    |   |
|---|---|---|---|---|----|---|
| 1. Clarkson & Hamilton, Braidwood Tile Works, Carluke,  | . | . | . | 1 | 0  | 0 |
| 2. Commander G. F. Lyon of Kirkmichael, R.N., Dumfries, | . | . | . | 0 | 10 | 0 |

## SECTION 23. SCOTCH GREY—Cockerel.

- |  |   |   |   |   |    |   |
|--|---|---|---|---|----|---|
| 1. John Montgomerie, Todhills, Kilwinning, | . | . | . | 1 | 0  | 0 |
| 2. John Lindsay, Thornhill, Stewarton,     | . | . | . | 0 | 10 | 0 |

## SECTION 24. SCOTCH GREY—2 Pullets.

- |  |   |   |   |   |    |   |
|--|---|---|---|---|----|---|
| 1. James Chalmers, New Park, Carluke,  | . | . | . | 1 | 0  | 0 |
| 2. John Lindsay, Thornhill, Stewarton, | . | . | . | 0 | 10 | 0 |

## SECTION 25. HAMBURG, Pencilled—Cock.

- |                             |   |   |   |   |    |   |
|-----------------------------|---|---|---|---|----|---|
| 1. George Dobson, Longtown, | . | . | . | 1 | 0  | 0 |
| 2. Henry Sanders, Langholm, | . | . | . | 0 | 10 | 0 |

## SECTION 26. HAMBURG, Pencilled—2 Hens.

- |                             |   |   |   |   |   |   |
|-----------------------------|---|---|---|---|---|---|
| 1. Henry Sanders, Langholm, | . | . | . | 1 | 0 | 0 |
|-----------------------------|---|---|---|---|---|---|

## SECTION 27. HAMBURG, Pencilled—Cockerel.

- |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|
| 1. James Muirgrave, Longtown, Cumberland, | . | . | . | 1 | 0 | 0 |
|---|---|---|---|---|---|---|

## SECTION 28. HAMBURG, Pencilled—2 Pullets.

- |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|
| 1. James C. Wilson, Bruntshields, Tlwald, Dumfries, | . | . | . | 1 | 0 | 0 |
|---|---|---|---|---|---|---|

## SECTION 29. HAMBURG, Spangled—Cock.

- |  |   |   |   |   |    |   |
|--|---|---|---|---|----|---|
| 1. A. Warwick, Outer Woodhead, Canonbie, | . | . | . | 1 | 0  | 0 |
| 2. John Lindsay, Thornhill, Stewarton,   | . | . | . | 0 | 10 | 0 |

## SECTION 30. HAMBURG, Spangled—2 Hens.

- |  |   |   |   |   |    |   |
|--|---|---|---|---|----|---|
| 1. Thomas B. Retson, Sorn, Mauchline,    | . | . | . | 1 | 0  | 0 |
| 2. A. Warwick, Outer Woodhead, Canonbie, | . | . | . | 0 | 10 | 0 |

Carry forward, £43 0 0

d



				Brought forward, £43 0 0
SECTION 31. HAMBURG, Spangled—Cockerel.				
1. Thomas B. Retson, Sorn, Mauchline, . . . . .	.	.	.	1 0 0
2. Commander G. F. Lyon of Kirkmichael, R.N., Dumfries, . . . . .	.	.	.	0 10 0
SECTION 32. HAMBURG, Spangled—2 Pullets.				
1. Thomas B. Retson, Sorn, Mauchline, . . . . .	.	.	.	1 0 0
2. Commander G. F. Lyon of Kirkmichael, R.N., Dumfries, . . . . .	.	.	.	0 10 0
SECTION 33. POLISH—Cock.				
1. H. A. Clark, Prospect House, Aspatia, . . . . .	.	.	.	1 0 0
SECTION 34. POLISH—2 Hens.				
1. H. A. Clark, Prospect House, Aspatia, . . . . .	.	.	.	1 0 0
SECTION 35. POLISH—Cockerel.				
1. No award.				
2. John Grieve, Newtown, Bo'ness, . . . . .	.	.	.	0 10 0
SECTION 36. POLISH—Two Pullets.—No Entry.				
SECTION 37. GAME, Black or Brown Reds—Cock.				
1. James Falconer, St Ann's, Lasswade, . . . . .	.	.	.	1 0 0
2. John Brough, 22 London Road, Carlisle, . . . . .	.	.	.	0 10 0
SECTION 38. GAME—Black or Brown Reds—1 Hen.				
1. James Falconer, St Ann's, Lasswade, . . . . .	.	.	.	1 0 0
2. John Brough, 22 London Road, Carlisle, . . . . .	.	.	.	0 10 0
SECTION 39. GAME—Black or Brown Reds—Cockerel.				
1. James Falconer, St Ann's, Lasswade, . . . . .	.	.	.	1 0 0
2. John Brough, 22 London Road, Carlisle, . . . . .	.	.	.	0 10 0
SECTION 40. GAME—Black or Brown Reds—1 Pullet.				
1. John Brough, 22 London Road, Carlisle, . . . . .	.	.	.	1 0 0
SECTION 41. GAME—Duckwings, or any other Variety—Cock.				
1. James Falconer, St Ann's, Lasswade, . . . . .	.	.	.	1 0 0
SECTION 42. GAME—Duckwings, or any other Variety—1 Hen.				
1. James Falconer, St Ann's, Lasswade, . . . . .	.	.	.	1 0 0
2. H. A. Clark, Prospect House, Aspatia (Black Game), . . . . .	.	.	.	0 10 0
SECTION 43. GAME—Duckwings, or any other Variety—Cockerel.— No Entry.				
SECTION 44. GAME—Duckwings, or any other Variety—1 Pullet.— No Entry.				
SECTION 45. BANTAMS—Game—Cock.				
1. James Falconer, St Ann's, Lasswade, . . . . .	.	.	.	1 0 0
2. J. D. Donald, St John's Cottage, Montrose, . . . . .	.	.	.	0 10 0
SECTION 46. BANTAMS—Game—1 Hen.				
1. J. D. Donald, St John's Cottage, Montrose, . . . . .	.	.	.	1 0 0
2. Robert J. Wilson, Leithen Hall, Moffat, . . . . .	.	.	.	0 10 0
SECTION 47. BANTAMS—Game—Cockerel.				
1. J. D. Donald, St John's Cottage, Montrose, . . . . .	.	.	.	1 0 0
2. James R. Kilgour, Crossgates, Fife, . . . . .	.	.	.	0 10 0
SECTION 48. BANTAMS—Game—1 Pullet.				
1. James R. Kilgour, Crossgates, Fife, . . . . .	.	.	.	1 0 0
2. J. D. Donald, St John's Cottage, Montrose, . . . . .	.	.	.	0 10 0
SECTION 49. BANTAMS—Sebright—Cock.				
1. Thomas Douglas, Thornhill, Dumfries, . . . . .	.	.	.	1 0 0
2. Robert E. Frew, Sinclairton, Kirkcaldy, . . . . .	.	.	.	0 10 0
SECTION 50. BANTAMS—Sebright—2 Hens.				
1. Miss Robina Frew, Sinclairton, Kirkcaldy, . . . . .	.	.	.	1 0 0

Carry forward, £65 0 0

Brought forward, £65 0 0

## SECTION 51. BANTAMS—Sebright—Cockerel.

- |  |        |
|--|--------|
| 1. John McClelland, Star Inn, Beith, Ayrshire, . . . . . | 1 0 0  |
| 2. John McClelland, Star Inn, Beith, Ayrshire, . . . . . | 0 10 0 |

## SECTION 52. BANTAMS—Sebright—2 Pullets.—No Award.

## SECTION 53. BANTAMS—Any other Variety—Cock.

- |  |        |
|--|--------|
| 1. William Shaw, Margaret Cottage, Kilmarnock (Black), . . . . . | 1 0 0  |
| 2. Alexander Frew, Sinclairton, Kirkcaldy (Black), . . . . .     | 0 10 0 |

## SECTION 54. BANTAMS—Any other Variety—2 Hens.

- |  |        |
|--|--------|
| 1. William Shaw, Margaret Cottage, Kilmarnock, . . . . . | 1 0 0  |
| 2. Miss Jane M. Frew, Sinclairton, Kirkcaldy, . . . . .  | 0 10 0 |

## SECTION 55. BANTAMS—Any other Variety—Cockerel.—No Entry.

## SECTION 56. BANTAMS—Any other Variety—2 Pullets.

- |  |       |
|--|-------|
| 1. George Good, 22 West Shaw Street, Kilmarnock, . . . . . | 1 0 0 |
|--|-------|

## SECTION 57. POULTRY—Any other Pure Breed—Cock.

- |   |        |
|---|--------|
| 1. John B. Brown, Gilmerton, Liberton (Creeve Cœur), . . . . .      | 1 0 0  |
| 2. H. A. Clark, Prospect House, Aspatria (Black Hamburg), . . . . . | 0 10 0 |

## SECTION 58. POULTRY—Any other Pure Breed—2 Hens.

- |   |        |
|---|--------|
| 1. H. A. Clark, Prospect House, Aspatria (Black Hamburg), . . . . . | 1 0 0  |
| 2. John B. Brown, Gilmerton, Liberton (Creeve Cœur), . . . . .      | 0 10 0 |

## SECTION 59. POULTRY—Any other Pure Breed—Cockerel.

- |   |        |
|---|--------|
| 1. John B. Kennedy, Stenhouse, Thornhill, . . . . . | 1 0 0  |
| 2. Mrs Pool, Milnfield, Annan, . . . . .            | 0 10 0 |

## SECTION 60. POULTRY—Any other Pure Breed—2 Pullets.

- |   |        |
|---|--------|
| 1. John B. Kennedy, Stenhouse, Thornhill, . . . . . | 1 0 0  |
| 2. Mrs Pool, Milnfield, Annan, . . . . .            | 0 10 0 |

## SECTION 61. DUCKS—White Aylesbury—Drake.

- |  |        |
|--|--------|
| 1. Robert Wallace, Auchenbrain, Mauchline, . . . . .                       | 1 0 0  |
| 2. Commander George Francis Lyon of Kirkmichael, R.N., Dumfries, . . . . . | 0 10 0 |

## SECTION 62. DUCKS—White Aylesbury—1 Duck.

- |  |        |
|--|--------|
| 1. Robert Wallace, Auchenbrain, Mauchline, . . . . .                       | 1 0 0  |
| 2. Commander George Francis Lyon of Kirkmichael, R.N., Dumfries, . . . . . | 0 10 0 |

## SECTION 63. DUCKS—White Aylesbury—Drake (Young).

- |  |        |
|--|--------|
| 1. Robert Wallace, Auchenbrain, Mauchline, . . . . . | 1 0 0  |
| 2. Mrs Pool, Milnfield, Annan, . . . . .             | 0 10 0 |

## SECTION 64. DUCKS—White Aylesbury—1 Duckling.

- |   |        |
|---|--------|
| 1. Robert Wallace, Auchenbrain, Mauchline, . . . . .              | 1 0 0  |
| 2. Commander G. F. Lyon of Kirkmichael, R.N., Dumfries, . . . . . | 0 10 0 |

## SECTION 65. DUCKS—Rouen—Drake.

- |  |        |
|--|--------|
| 1. W. F. Hunter Arundell, Barjarg Tower, Dumfries, . . . . . | 1 0 0  |
| 2. Robert Wallace, Auchenbrain, Mauchline, . . . . .         | 0 10 0 |

## SECTION 66. DUCKS—Rouen—1 Duck.

- |   |        |
|---|--------|
| 1. Robert Wallace, Auchenbrain, Mauchline, . . . . .              | 1 0 0  |
| 2. Commander G. F. Lyon of Kirkmichael, R.N., Dumfries, . . . . . | 0 10 0 |

## SECTION 67. DUCKS—Rouen—Drake (Young).

- |  |        |
|--|--------|
| 1. Robert Wallace, Auchenbrain, Mauchline, . . . . . | 1 0 0  |
| 2. James Cranston, Holestane, Thornhill, . . . . .   | 0 10 0 |

## SECTION 68. DUCKS—Rouen—1 Duckling.

- |  |        |
|--|--------|
| 1. Mrs Pool, Milnfield, Annan, . . . . .           | 1 0 0  |
| 2. James Cranston, Holestane, Thornhill, . . . . . | 0 10 0 |

## SECTION 69. DUCKS—Any other Pure Breed—Drake.—No Award.

## SECTION 70. DUCKS—Any other Pure Breed—1 Duck.—No Entry.

Carry forward, £88 10 0

## PREMIUMS AWARDED BY THE SOCIETY IN 1878.

Brought forward, £88 10 0

SECTION 71. DUCKS—Any other Pure Breed—Drake (Young).—No Entry.

SECTION 72. DUCKS—Any other Pure Breed—1 Duckling.—No Entry.

SECTION 73. TURKEYS—Black Norfolk—Cock.—No Entry.

SECTION 74. TURKEYS—Black Norfolk—1 Hen.—No Entry.

SECTION 75. TURKEYS—Black Norfolk—Cock (Poult).—No Entry.

SECTION 76. TURKEYS—Black Norfolk—1 Hen (Poult).—No Entry.

SECTION 77. TURKEYS—Any other Breed—Cock.

- |   |        |
|---|--------|
| 1. Commander G. F. Lyon of Kirkmichael, R.N., Dumfries (Cambridge), | 1 0 0  |
| 2. Mrs Thomson, Blaiket, Crocketford (Cambridge),                   | 0 10 0 |

SECTION 78. TURKEYS—Any other Breed—1 Hen.—No Entry.

SECTION 79. TURKEYS—Any other Breed—Cock (Poult).

- |  |        |
|--|--------|
| 1. No Award,   |        |
| 2. T. L. M. Cartwright, Melville, Ladybank (South American), | 0 10 0 |

SECTION 80. TURKEYS—Any other Breed—1 Hen (Poult).

- |  |        |
|--|--------|
| 1. No Award,   |        |
| 2. T. L. M. Cartwright, Melville, Ladybank (South American), | 0 10 0 |

SECTION 81. GEESE—Grey Toulouse—Gander.

- |  |       |
|--|-------|
| 1. A. Warwick, Outer Woodhead, Canonbie, | 1 0 0 |
|--|-------|

SECTION 82. GEESE—Grey Toulouse—1 Goose.

- |  |       |
|--|-------|
| 1. A. Warwick, Outer Woodhead, Canonbie, | 1 0 0 |
|--|-------|

SECTION 83. GEESE—Grey Toulouse—Gander (Young).

- |  |        |
|--|--------|
| 1. S. S. Lloyd, M.P., Moor Hall, Sutton Coldfield, Birmingham, | 1 0 0  |
| 2. A. Warwick, Outer Woodhead, Canonbie,                       | 0 10 0 |

SECTION 84. GEESE—Grey Toulouse—1 Gosling.

- |  |        |
|--|--------|
| 1. S. S. Lloyd, M.P., Moor Hall, Sutton Coldfield, | 1 0 0  |
| 2. Mrs Thomson, Blaiket, Crocketford,              | 0 10 0 |

SECTION 85. GEESE—Embsden—Gander.—No Entry.

SECTION 86. GEESE—Embsden—1 Goose.—No Entry.

SECTION 87. GEESE—Embsden—Gander (Young).—No Entry.

SECTION 88. GEESE—Embsden—1 Gosling.—No Entry.

SECTION 89. GEESE—Any other Pure Breed—Gander.

- |   |       |
|---|-------|
| 1. Commander G. F. Lyon of Kirkmichael, R.N., Dumfries (Chinese), | 1 0 0 |
|---|-------|

SECTION 90. GEESE—Any other Pure Breed—1 Goose.—No Entry.

SECTION 91. GEESE—Any other Pure Breed—Gander (Young).—No Entry.

SECTION 92. GEESE—Any other Pure Breed—1 Gosling.—No Entry.

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£97 0 0

## CLASS VII.—DAIRY PRODUCE.

SECTION 1. CURED BUTTER, not less than 7 lbs.

- |   |        |
|---|--------|
| 1. Donald M'Farlane, Balmuldy, Bishopbriggs,        | £6 0 0 |
| 2. Donald M'Laren, Middleton of Mugdock, Milngavie, | 4 0 0  |
| 3. James Morrison, Syke, Craigie, Kilmarnock,       | 2 0 0  |

Carry forward, £12 0 0

Brought forward, £12 0 0

## SECTION 2. POWDERED BUTTER, not less than 7 lbs.

1. Donald M'Farlane, Balmuldy, Bishopbriggs, . . . . .	6 0 0
2. Donald M'Laren, Middleton of Mugdock, Milngavie, . . . . .	4 0 0
3. Archibald Cullen, Woodend, Airdrie, . . . . .	2 0 0
H. C., T. S. Gladstone of Capenoch, Bogrough, Thornhill. C., Archibald Bulloch, Milliken, New Kilpatrick; John Wilson, Hallidayhill, Dalton.	

SECTION 3. FRESH BUTTER—Three  $\frac{1}{2}$  lb. Rolls.

1. Donald M'Laren, Middleton of Mugdock, Milngavie, . . . . .	6 0 0
2. Archibald Bulloch, Milliken, New Kilpatrick, . . . . .	4 0 0
3. Robert Watson, Windyshields, Carstairs, Lanark, . . . . .	2 0 0
H. C., Donald M'Farlane, Balmuldy, Bishopbriggs; Mrs Reid, East Glenarm, Crocketford; John Wilson, Hallidayhill, Dalton. C., John Kerr, Blountfield, Dumfries; Henry Orr, Torrance, Bathgate.	

## SECTION 4. CHEDDAR CHEESE—56 lbs. and upwards.

1. William Baird, Spittal, Creetown, . . . . .	10 0 0
2. Mark J. Stewart, M.P., Ardwell, . . . . .	8 0 0
3. Anthony M'Guffie, Auchentibbert, Sandhead, Stranraer, . . . . .	6 0 0
4. William M'Master, Challoch, Dunragit, . . . . .	5 0 0
5. John Kerr, Millisle, Garliestown, Wigtown, . . . . .	4 0 0
6. John Paterson, Colfin, Stranraer, . . . . .	3 0 0
7. John M'Culloch, Denbie Mains, Dalton, Lockerbie, . . . . .	2 0 0
8. George Cowan, Mains of Park, Glenluce, . . . . .	1 0 0

## SECTION 5. CHEDDAR CHEESE—14 lbs. and under.

1. William M'Master, Challoch, Dunragit, . . . . .	5 0 0
2. William Baird, Spittal, Creetown, . . . . .	3 0 0
3. John Lindsay, Dunjop, Castle-Douglas, . . . . .	2 0 0
C., James Galloway, Cults, Inch, Stranraer; Alexander Kirk, Carniehill, Borgeue, Kirkcudbright; Mark J. Stewart, M.P., Ardwell, Stranraer.	

## SECTION 6. DUNLOP CHEESE—30 lbs. and upwards.

1. John Baird, Hall, Kirkconnel, Sanquhar, . . . . .	5 0 0
2. The Duke of Buccleuch and Queensberry, K.G., Drumlanrig, Thornhill, . . . . .	3 0 0
3. The Duke of Buccleuch and Queensberry, K.G., Drumlanrig, Thornhill, . . . . .	2 0 0
C., William Smith, Thirdpart, Auchencleck.	

## SECTION 7. CHEESE—Any other Variety—30 lbs. and upwards.

1. David A. Hood, Balgreddan, Kirkcudbright, . . . . .	5 0 0
2. Matthew Hunter, High Culgroat, Stoneykirk, Stranraer, . . . . .	3 0 0
3. George L. Muir, Little Lochdougan, Castle-Douglas, . . . . .	2 0 0

## SECTION 8. CHEESE, Flat Make—Any Variety—15 lbs. and under.

1. The Duke of Buccleuch and Queensberry, K.G., Drumlanrig, Thornhill, . . . . .	5 0 0
2. David A. Hood, Balgreddan, Kirkcudbright, . . . . .	3 0 0
3. A. M'Kerrow, Auchenskeoch, Southwick, . . . . .	2 0 0

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£115 0 0

## CLASS VIII.—IMPLEMENTS.

## Large Gold Medals awarded to

C. H. & J. L. M'Cormick, America, for Self-Binding Reaper, tried at Liberton Tower Mains, 21st August 1878. Exhibited by A. & J. Main & Co., Glasgow and Edinburgh, . . . . .	£10 0 0
Walter A. Wood, London, for Self-Binding Reaper, tried at Liberton Tower Mains, 21st August 1878, . . . . .	10 0 0

## Medium Gold Medals awarded to

Richard Hornsby & Sons, Grantham, for Controllable Rakes of Reaper, tried at Liberton Tower Mains, 21st August 1878, . . . . .	6 2 0
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Carry forward, £26 2 0

Brought forward, £26 2 0

## Minor Gold Medals awarded to

J. & H. M'Laren, Midland Engine Works, Leeds, for 8-Horse Power Locomotive Engine, with Patent Expansion Arrangement, . . . . .	3 15 0
Frederick Savage, St Nicholas Works, Lynn, for 10-Horse Power "Agriculturist" Locomotive Engine and Winding Gear, . . . . .	3 15 0
Walter A. Wood, London, for Controllable Rake Reaper, tried at Liberton Tower Mains, 21st August 1878, . . . . .	3 15 0

## Silver Medals awarded to

Corbett & Peele, Shrewsbury, for "Eclipse" Corn Dressing Machine, . . . . .	0 16 0
J. Williams & Son, Rhyl, for Improvements in Chaff Cutter, . . . . .	0 16 0
Richmond & Chandler, Salford, Manchester, for Improvements in Chaff Cutter, . . . . .	0 16 0
Walter A. Wood, London, for New Enclosed Gear Principle of Mower, . . . . .	0 16 0
Logan & Elder, Berwick-on-Tweed, for Cultivator invented by Howard, . . . . .	0 16 0
John M'Kerlie, Glenluce, for Cheese Bandage Winder, . . . . .	0 16 0
W. N. Nicholson & Son, Newaik-on-Trent, for Patent Grist and Corn Grinding Mill, . . . . .	0 16 0

## Medium Silver Medal awarded to

John Richardson, Carlisle, for Improvements in Grass Seed Dressing Machine, . . . . .	0 10 6
	<hr/> £43 9 6 <hr/>

## ABSTRACT OF PREMIUMS.

Cattle, . . . . .	£987 14 6
Horses, . . . . .	755 7 6
Sheep, . . . . .	366 6 6
Wool, . . . . .	20 0 0
Swine, . . . . .	74 0 0
Poultry, . . . . .	97 0 0
Dairy Produce, . . . . .	115 0 0
Implements, . . . . .	43 9 6
	<hr/> £2458 18 0 <hr/>

## LIST OF JUDGES.

GALLOWAY.—Thomas Gibbons, 24 Cheswick Street, Carlisle; James Gifford, Torhouskie, Bladnoch, Wigtownshire; John M'Cormick, Lochenkit, Dalbeattie.

POLLED ANGUS OR ABERDEEN.—Henry D. Adamson, Balquharn, Alford; George J. Walker, Portlethen, Aberdeen; William Whyte, Spott, Kirriemuir.

SHORTHORN.—George Drewry, Holker, Carke-in-Cartmel, Carnforth; H. Chandos Pole Gell, Hopton Hall, Wirksworth; James Reid, Greystone, Alford.

AYRSHIRE.—Alexander Allan, Carbarns, Wishaw; James Hamilton, Woolfords, Carnwath; Robert Paton, Cloverhill, Dumtchar.

HIGHLAND.—James Campbell, Ormaig, Lochgilphead; John M'Lauchlan, Foss, Pitlochry.

FAT STOCK.—Hugh Muirhead, Butcher, Dumfries; Alexander Young, Keir Mains, Dunblane.

DRAUGHT STALLIONS AND ENTIRE COLTS.—James Crawford, Thirdpart, Wemyss Bay; Thomas Kerr, Whitehills, Sanquhar; Adam Smith, Stevenson Mains, Haddington.

DRAUGHT MARES, FILLIES, AND GELDINGS.—William Gray, Muncraig, Kirkcudbright; Alexander Murdoch, Gartcraig, Shettleston; John Young, Wester Fullwood, Paisley.

HUNTERS, ROADSTERS, PONIES, AND EXTRA HORSES.—William Ford, Hardengreen, Dalkeith; Andrew Gillon of Wallhouse, Bathgate; James Hope, Duddingston, Edinburgh.

CHEVIOT.—William Henderson, Fowberry Mains, Belford; John Miller, Downreay, Thurso; Robert Shortreed, Attonburn, Kelso.

BLACKFACED.—James Coubrough, Blairtummock, Lennoxton; Duncan M'Diarmid, Glengowlandie, Aberfeldy; James M'Pherson, Clunas, Cawdor, Nairn.

BORDER LEICESTER.—Thomas Clark, Oldhamstocks Mains, Cockburnspath; Robert Hardie, Harrielfield, Kelso; John Usher, Stodrig, Kelso.

**LEICESTER, COTSWOLD, LINCOLN, AND SHROPSHIRE.**—Thomas Harris, Stonylane, Bromsgrove; Thomas Ferguson, Kinnochtry, Coupar-Augus.

**WOOL.**—The Judges of the various Classes of Sheep.

**SWINE.**—Peter Eden, Cross Lane, Salford; Patrick Small Keir of Kindrogan, Pitlochry; Thomas Mylne, Niddrie Mains, Liberton.

**POULTRY.**—Thomas Raines, Bridge Haugh, Stirling; Richard Teebay, Fulwood, Preston.

**DAIRY PRODUCE.**—Thomas Baillie, 15 Victoria Street, Edinburgh; Baillie Osborne, 45 Candle-riggs Street, Glasgow.

**IMPLEMENTS.**—James W. Hunter of Thurston, Chairman of Committee; David Stevenson, C.E., Edinburgh, Consulting Engineer; Sir Alexander Jardine of Applegirth, Bart., Lockerbie; James D. Park, Edinburgh, Practical Engineer; Professor Wilson, Edinburgh; Thomas Mylne, Niddrie Mains, Liberton; John Munro, Fairnington, Kelso; Robert Hutchison of Carlwrie, Kirkliston; Thomas D. Findlay, Easterhill, Tollcross, Glasgow.

### LIST OF ATTENDING MEMBERS.

**GALLOWAY.**—Captain Yorstoun of East Tinwald, Irvine House, Canonbie; William J. Sproat, Brighthouse, Kirkcudbright.

**POLLED ANGUS OR ABERDEEN.**—Christopher Johnstone, Dinwoodie Lodge, Lockerbie; Andrew Lusk, Howell, Kirkcudbright.

**SHORTHORN.**—William Hunter, Crawfordton Lodge, Monlachie; Niven Matthews, Whitehills, Sorbie.

**AYRSHIRE.**—Wellwood H. Maxwell of Munches, Dalbeattie; P. Steuart, Middlegill, Moffat.

**HIGHLAND.**—James Kennedy of Sundaywell, Brandleys, Sanquhar; James Sloan of Barbeth, Dumfries.

**FAT STOCK.**—J. Seton Wightman of Courance, Lockerbie; John Ralston, Milmain, Stoneyk; k, Stranraer.

**CLYDESDALE STALLIONS AND COLTS.**—J. Seton Wightman, yr. of Courance, Lockerbie; Oliphant Brown, Shiel, New Galloway.

**CLYDESDALE MARES AND FILLIES.**—Captain Maxwell of Terregles, Dumfries; James Brown, Hardgrave, Annan.

**HUNTERS AND ROADSTERS.**—Richard Alexander Oswald of Auchencruive, Ayr; David Dobie, Tinwald House, Dumfries.

**CHEVIOT.**—William Paterson of Brokeleirst, Dumfries; George Cowan, Mains of Park, Glenluce.

**BLACKFACED.**—Provost Smith, Dumfries; Maxwell Clark of Culmain, Crocketford.

**BORDER LEICESTER.**—D. J. Paterson of Terrona, Langholm; John Thomson, Blaket, Crocketford, Dumfries.

**LEICESTER, COTSWOLD, LINCOLN, AND SHROPSHIRE.**—James M'Queen of Crofts, Dalbeattie; J. S. Thomson, M'Cheynston, Dumfries.

**SWINE.**—John Adam, Closeburn, Thornhill; Thomas Smith, Ladyland, Kirkbean.

**POULTRY.**—William Stewart of Shambelly, Dumfries; Provost Gillies, Maxwelltown.

**DAIRY PRODUCE.**—R. F. Dudgeon, yr. of Cargen, Dumfries; Robert M'William, Craichmore, Stranraer.

### IV.—DISTRICT COMPETITIONS.

#### CATTLE.

NAME OF DIST.	PREMIUM AWARDED TO	FOR	AMOUNT
<i>Upper</i>	Col. D. R. Williamson of Lawers	Shorthorn Bull	Silver Medal £0 16 0
<i>Strathearn</i>	Jas. Craig, Innergeldie	Ayrshire Heifer	£3 & Med. Sil. Med. 3 10 6
	Donald M'Laren, Ardvelch	do.	2 0 0
	Jas. Craig, Innergeldie	do.	1 0 0

Carry forward, £7 6 6

NAME OF DIST.	PREMIUM AWARDED TO	FOR	Brought forward,	AMOUNT
			Silver Medal,	£7 6 6
<i>Formartine</i>	George Marr, Cairnbrogie	Shorthorn Bull		0 16 0
	Alex. Davidson, Mains of Cairnbrogie	do. Class I.†	£4 & Med. Sil. Med.	4 10 6
	George Shepherd, jr., Craigies	do. do.	.	3 0 0
	William Polson, Tillygreig	do. do.	.	1 0 0
	Alex. Davidson, Mains of Cairnbrogie	do. Class II.†	£3 & Med. Sil. Med.	3 10 6
	James Thomson, Newseat of Dumbreck	do. do.	.	2 0 0
	William Taylor, Cairnfechel	do. do.	.	1 0 0
	William Polson, Tillygreig	Polled Heifer	£3 & Med. Sil. Med.	3 10 6
	James Manson, Oakhill	do.	.	2 0 0
	Mrs Hay, South Ythsie	do.	.	1 0 0
<i>Kinglassie</i>	John Hepburn, Pitcairn	Polled Bull	Class I. £2 & Med. Sil. Med.	2 10 6*
	David Collier, Parknook	do. do.	.	1 10 0*
	David Beath, Auchmuir	do. do.	.	0 10 0*
	William Dick, Inchgall	do. Class II.	£1, 10s. & Med. Sil. Med.	2 0 6*
	Alex. Mitchell, Finmont	do. do.	.	1 0 0*
	William Gibb, Finglassie	do. do.	.	0 10 0*
	John Armour, Goatmill	Shorthorn Heifer	£3 & Med. Sil. Med.	3 10 6
	John Armour, Goatmill	do.	.	2 0 0
	Lawrence M'Farlane, Rosewells	do.	.	1 0 0
<i>East Kilbride</i>	John Thomson, Avonhead	Ayrshire Bull	Silver Medal	0 16 0
	John Thomson, Avonhead	Ayrshire Bull	Class I. Med. Sil. Med.	0 10 6
	Thos. Ballantyne, Nether-ton	do. Class II.	Med. Sil. Med.	0 10 6
	James Scott, Newlands	Ayrshire Heifer	Med. Sil. Med.	0 10 6
<i>County of Kincardine</i>	William Taylor, Coltbank	Shorthorn Bull	Class I. Med. Sil. Med.	0 10 6
	James Milne, Cairnhill	do. Class II.	Med. Sil. Med.	0 10 6
	James Scott, of Easter Tulloch	Polled Heifer	Med. Sil. Med.	0 10 6
<i>Garioch</i>	Robert O. Farquharson, of Haughton	Polled Bull	Silver Medal	0 16 0
	William Mackie, Petty	Shorthorn Bull	Class I. Med. Sil. Med.	0 10 6
	James Stephen, Conglass	Polled Bull	Class II. Med. Sil. Med.	0 10 6
	William Mackie, Petty	Shorthorn Heifer	Med. Sil. Med.	0 10 6
<i>Strathbogie</i>	Chas. A. Cantile, Keithmore	Shorthorn Bull	Class I. Med. Sil. Med.	0 10 6
	James Merson, Craigwillie	do. Class II.	Med. Sil. Med.	0 10 6
	James Bruce, Collithie	Polled Heifer	Med. Sil. Med.	0 10 6
<i>United Banffshire</i>	Wm. Jas. Tayler of Glenbarry	Polled Bull	Silver Medal	0 16 0
	William Beedie, Pitgair	do. Class II.	Med. Sil. Med.	0 10 6
	Andrew Longmore, Rettle	Shorthorn Heifer	Med. Sil. Med.	0 10 6
<i>Turriff</i>	Andrew Longmore of Linksfield	Shorthorn Bull	Silver Medal	0 16 0
	Andrew Longmore, Rettle	do. Class I.	Med. Sil. Med.	0 10 6
	Dr Smith, Kinnairdy	do. Class II.	Med. Sil. Med.	0 10 6
	Robert Walker, Montbletton	Polled Heifer	Med. Sil. Med.	0 10 6
<i>Avondale</i>	Thomas Tennent, Strathaven	Ayrshire Bull	Silver Medal	0 16 0
	Thomas Tennent, Strathaven	do. Class I.	Med. Sil. Med.	0 10 6
	Robert Sandilands, Cumberhead	do. Class II.	Med. Sil. Med.	0 10 6
	John Donald, Hairshaw	Ayrshire Heifer	Med. Sil. Med.	0 10 6
<i>Weem</i>	D. & R. Menzies, Tullichville	Shorthorn Bull	Class II. Med. Sil. Med.	0 10 6
	D. & R. M'Diarmid, Glengowlandie	Ayrshire Heifer	Med. Sil. Med.	0 10 6
Carry forward,				£59 16 6

\* Half Premiums awarded, the number of Lots being under four.

† Aged Bulls.

‡ Two-year-old Bulls.

NAME OF DIST.	PREMIUM AWARDED TO	FOR	Brought forward,	AMOUNT.
				£39 16 6
<i>County of Ayr</i>	Vote in aid of Premiums			20 0 0
	Duke of Buccleuch and Queensberry	Ayrshire Cow	Silver Medal	0 16 0
	Duncan Keir, Bucklyvie	Ayrshire Bull	Med. Sil. Med.	0 10 6
	Jas. Cunningham, Tarbreoch	Brood Mare	Med. Sil. Med.	0 10 6
	Jas. Johnston, Lochburnie	Two-year old Entire Colt.	Med. Sil. Med.	0 10 6

## HORSES FOR AGRICULTURAL PURPOSES.

<i>Clack-mannan</i>	Andrew Montgomery, Borland	Stallion		25 0 0
<i>Locherbie</i>	Alex. Brewster, Branchal	Stallion		25 0 0
<i>East Dist. of Berwickshire</i>	James Black, Cheswick	Stallion		25 0 0
<i>Lauderdale</i>	John Paton, Renfrew	Stallion		25 0 0
<i>Machars</i>	John Duncan, Ardo	Stallion		25 0 0
<i>Peeblesshire</i>	James Johnston, Lochburnie	Stallion		25 0 0
<i>East Dist. of Stirlingshire</i>	David Riddel, Blackhall	Stallion		25 0 0
<i>Dist. of R. Northern Society</i>	L. Mackinnon, jr., Ardconnon	Brood Mare	£4 & Med. Sil. Med.	4 10 6
	Robert Walker, Montbletton	do.		3 0 0
	R. B. Walker, Portlithen	do.		1 0 0
<i>Dalbeattie</i>	David A. Hood, Balgreddan	Brood Mare	£4 & Med. Sil. Med.	4 10 6
	Jas. Cunningham, Tarbreoch	do.		3 0 0
<i>Rhins Dist. of Wig-townshire</i>	William M'Master, Challoch	Brood Mare	£4 & Med. Sil. Med.	4 10 6
	James Wither, Awhik	do.		3 0 0
	Jas. A. Whyte, Kirkmabrick	do.		1 0 0
<i>Auchtermuchty</i>	James Blyth, Leckiebank	Brood Mare	£4 & Med. Sil. Med.	4 10 6
	James Blyth, Leckiebank	do.		3 0 0
	William Thom, Demperstone	do.		1 0 0
<i>East of Fife</i>	W. R. Fortune of Muircambus	Brood Mare	£4 & Med. Sil. Med.	4 10 6
	John W. F. Wyatt, Athernie	do.		3 0 0
<i>Buchan</i>	Thomas Smith, Stenhousehill	Two-year old Colt	£3 & Med. Sil. Med.	3 10 6
	John Lawrence, Dens	do.		2 0 0
	William Penny, Mains of Pitfour	do.		1 0 0
	Dr Anderson, Monyrup	One-year old Colt	£1 & Med. Sil. Med.	1 10 6*
	James Milne, Brae of Biffie	do.		0 10 0*
	W. Godsmann, Mains of Fedderate	Two-year old Filly	£3 & Med. Sil. Med.	3 10 6
	A. Pittendreich, Mains of Park	do.		2 0 0
	W. Godsmann, Mains of Fedderate	do.		1 0 0
	W. Godsmann, Mains of Fedderate	One-year old Filly	£2 & Med. Sil. Med.	2 10 6
	W. Godsmann, Mains of Fedderate	do.		1 0 0
	Lawrence Bennett, Crookednook	do.		0 10 0

Carry forward, £316 18 6

\* Half Premiums awarded, the number of Lots being under four.



NAME OF DIST.	PREMIUM AWARDED TO	FOR	AMOUNT.	
			Brought forward,	£316 18 6
<i>Selkirk and Galashiels</i>	J. W. Lawrie, Mitchelston	Brood Mare	£3 & Med. Sil. Med.	3 10 6
	And. T. Elliot, Newhall	do.	.	2 0 0
	Wm. Scott, Howford	do.	.	1 0 0
	J. W. Lawrie, Mitchelston	Three-year old Filly	£2 & Med. Sil. Med.	2 10 6
	William Lyal, Caddonlee	do.	.	1 0 0
	J. W. Lawrie, Mitchelston	do.	.	0 10 0
	J. S. E. Scott, Buckholm	Two-year old Filly	£3 & Med. Sil. Med.	3 10 6
	William Davidson, Colmslie	do.	.	2 0 0
	William Roxburgh, Thornillee	do.	.	1 0 0
	J. W. Lawrie, Mitchelston	One-year old Filly	£2 & Med. Sil. Med.	2 10 6
	J. S. E. Scott, Buckholm	do.	.	1 0 0
	Thomas Elliot, Blackhall	do.	.	0 10 0
<i>County of Caithness</i>	James Purves, Barrogill	Two-year old Colt	£1, 10s. & Med. Sil. Med.	2 0 6*
	Donald Sutherland, Achscrabster	do.	.	1 0 0*
	William Purves, Barrock Mains	Two-year old Filly	£3 & Med. Sil. Med.	3 10 6
	William Purves, Barrock Mains	do.	.	2 0 0
	Thomas Purves, Hoy	do.	.	1 0 0
	William Purves, Barrock Mains	One-year old Filly	£2 & Med. Sil. Med.	2 10 6
	Robert Morris, Reiss Lodge	do.	.	1 0 0
	Charles Davidson, Coghill	do.	.	0 10 0
<i>West. Dist. of Fifeshire</i>	James Drummond, Blacklaw	Two-year old Colt	£3 & Med. Sil. Med.	3 10 6
	Robert Young, Stevensonsbeath	do.	.	2 0 0
	Alex. Drummond, Masterton	do.	.	1 0 0
	A. Henderson, Grange	One-year old Filly	£2 & Med. Sil. Med.	2 10 6
	John Brown, Colton	do.	.	1 0 0
	Thomas Crawford, Pitbauchlie	do.	.	0 10 0
	James Drummond, Blacklaw	Two-year old Filly	£3 & Med. Sil. Med.	3 10 6
	R. B. Heggie, Mossido	do.	.	2 0 0
	Hugh Butters, Masterton	do.	.	1 0 0
	Thomas Crawford, Pitbauchlie	One-year old Filly	£2 & Med. Sil. Med.	2 10 6
	Alexander Don, Keirsbeath	do.	.	1 0 0
<i>Strathendrick</i>	James Johnston, Auchengullian	Two-year old Colt	£3 & Med. Sil. Med.	3 10 6
	Jas Galbraith, Carbeth Guthrie	do.	.	2 0 0
	Peter Crawford, Dumgoyack	do.	.	1 0 0
	Robert M'Arthur, Borland	One-year old Colt	£2 & Med. Sil. Med.	2 10 6
	Peter Crawford, Dumgoyack	do.	.	1 0 0
	John Mitchell, Gartenich	do.	.	0 10 0
	Robert M'Arthur, Borland	Two-year old Filly	£3 & Med. Sil. Med.	3 10 6
	Mrs Blackburn, Killearn House	do.	.	2 0 0
	John M'Keich, Ballaird	do.	.	1 0 0
	Jas. Johnston, Auchengullian	One-year old Filly	£2 & Med. Sil. Med.	2 10 6
	Wm. Edmond, Hillhead of Catter	do.	.	1 0 0
	Alexander Dunn, Kepadwrie	do.	.	0 10 0

## SHEEP.

<i>West Teviotdale</i>	William Grieve, Skelfhill	Cheviot Tup	£3 & Med. Sil. Med.	3 10 6
	James Hobkirk, Eildrig	do.	.	1 0 0
	John Scott, West Deloraine	do.	.	0 10 0
	William Grieve, Skelfhill	Cheviot Shearling Tup	£3 & Med. Sil. Med.	3 10 6
	Robert Laidlaw, Rodona	do.	.	1 0 0
	John Mitchell, Singlee	do.	.	0 10 0
	John Scott, West Deloraine	Cheviot Ewes	£3 & Med. Sil. Med.	3 10 6
	James Grieve, Branhholm Braes	do.	.	1 0 0
	James Brydon, Satchells	do.	.	0 10 0
	James Brydon, Satchells	Cheviot Gimmers	£3 & Med. Sil. Med.	3 10 6
	Robert Laidlaw, Rodona	do.	.	1 0 0
	John Scott, West Deloraine	do.	.	0 10 0

Carry forward, £413 8 0

\* Half Premiums awarded, the number of Lots being under four.

# PREMIUMS AWARDED BY THE SOCIETY IN 1878.

59

NAME OF DIST.	PREMIUM AWARDED TO	FOR	AMOUNT.		
			Brought forward,	£413	8 0
<i>Breadaibane</i>	W. G. S. Menzies of Culdares	Blackfaced Tup	Silver Medal	0	16 0
	John Hamilton, Conenish	do.	£3 & Med. Sil. Med.	3	10 6
	John Hamilton, Conenish	do.	.	1	0 0
	A. M'Dougall, Claggan	do.	.	0	10 0
	John Hamilton, Conenish	Blackfaced Shearling Tup	£3 & Med. Sil. Med.	3	10 6
	Alex. M'Naughton, Remony	do.	.	1	0 0
	J. & A. M'Laren, Dall	do.	.	0	10 0
	Alex. M'Naughton, Remony	Blackfaced Ewes	£1, 10s. & Med. Sil. Med.	2	0 6*
	Alex. M'Naughton, Remony	do.	.	0	10 0*
	Peter Fisher, Borlick	Blackfaced Gimmers	£1, 10s. & Med. Sil. Med.	2	0 6*
	Alex. M'Naughton, Remony	do.	.	0	10 0*
	Alex. M'Naughton, Remony	do.	.	0	5 0*
<i>Island of Arran</i>	William Tod, Glenree	Blackfaced Tup	£3 & Med. Sil. Med.	3	10 6
	William Tod, Glenree	do.	.	1	0 0
	Donald M'Alister, Sannox	do.	.	0	10 0
	James Allan, jun., Balnacool	Blackfaced Shearling Tup	£3 & Med. Sil. Med.	3	10 6
	James Allan, jun., Balnacool	do.	.	1	0 0
	James Allan, jun., Balnacool	do.	.	0	10 0
	James Allan, jun., Balnacool	Blackfaced Ewes	£3 & Med. Sil. Med.	3	10 6
	James Allan, jun., Balnacool	do.	.	1	0 0
	William Tod, Glenree	do.	.	0	10 0
	James Allan, Clauchlands	Blackfaced Gimmers	£3 & Med. Sil. Med.	3	10 6
	James Allan, jun., Balnacool	do.	.	1	0 0
	Robt. Crawford, Glenscorrodale	do.	.	0	10 0
<i>Dist of Border Union Society</i>	James Nisbet of Lambden	Border Leicester Tup	Silver Medal	0	16 0
	Thomas Elliot, Hindhope	Cheviot Tup	£3 & Med. Sil. Med.	3	10 6
	Thomas Elliot, Hindhope	do.	.	1	0 0
	Thomas Elliot, Hindhope	do.	.	0	10 0
	John Thompson, Baillieknowe	Border Leicester Shear. Tup	£3 & Med. Sil. Med.	3	10 6
	Alexander Bain, Legars	do.	.	1	0 0
	George Torrance, Sisterpath	do.	.	0	10 0
	Thomas Elliot, Hindhope	Cheviot Ewes	£1, 10s. & Med. Sil. Med.	2	0 6*
	Thomas Elliot, Hindhope	do.	.	0	10 0*
	Robert Laidlaw, Rodona	do.	.	0	5 0*
	Robert Calder, Little Swinton	Border Leicester Gim.	£1, 10s. & Med. Sil. Med.	2	0 6*
<i>Islay, Jura and Colon-say</i>	R. D. Campbell, Jura	Blackfaced Tup	Silver Medal	0	16 0
	A. M'Conechy, Daill	do.	£3 & Med. Sil. Med.	3	10 6
	S. Mitchell, Neriby	do.	.	1	0 0
	A. M'Conechy, Daill	do.	.	0	10 0
	A. M'Conechy, Daill	Blackfaced Shear. Tup.	£3 & Med. Sil. Med.	3	10 6
	J. M'Kellar, Kilenan	do.	.	1	0 0
	S. Mitchell, Neriby	do.	.	0	10 0
	M. Simpson, Knocklearach	Blackfaced Ewes	£3 & Med. Sil. Med.	3	10 6
	A. M'Conechy, Daill	do.	.	1	0 0
	S. Mitchell, Neriby	do.	.	0	10 0
	A. M'Conechy, Daill	Blackfaced Gimmers	£3 & Med. Sil. Med.	3	10 6
	A. M'Conechy, Daill	do.	.	1	0 0
	S. Mitchell, Neriby	do.	.	0	10 0
<i>Badenoch and Rothiemurchus</i>	Donald Stewart, Chapel Park	Blackfaced Tup	Silver Medal	0	16 0
	Donald Stewart, Chapel Park	do.	Med. Silver Medal	0	10 6
	Roderick Macgregor, Kincraig	Blackfaced Shear. Tup	Med. Silver Medal	0	10 6
	Donald Stewart, Chapel Park	Blackfaced Ewes	Med. Silver Medal	0	10 6
	Donald Stewart, Chapel Park	Blackfaced Gimmers	Med. Silver Medal	0	10 6
<i>County of Sutherland</i>	J. B. Dudgeon, Crakaig	Cheviot Tup	Silver Medal	0	16 0
	K. Mackay, Port-na-lick	do.	Med. Silver Medal	0	10 6
	W. Mitchell, Ribigill	Cheviot Shear. Tup	Med. Silver Medal	0	10 6
	J. B. Dudgeon, Crakaig	Cheviot Ewes	Med. Silver Medal	0	10 6
	J. B. Dudgeon, Crakaig	Cheviot Gimmers	Med. Silver Medal	0	10 6

Carry forward, £492 0 0

\* Half Premiums awarded, the number of lots being under four.

## PREMIUMS AWARDED BY THE SOCIETY IN 1878.

NAME OF DIST.	PREMIUM AWARDED TO	FOR	AMOUNT.
<i>West Linton</i>	Sir G. Graham Montgomery, Bart.	Cheviot Tup	Brought forward, £492 0 0
	John Penman, Bonally	do.	Silver Medal 0 18 0
	T. Stevenson, Mount Lothian	Cheviot Shear Tup	Med. Silver Medal 0 10 6
	T. Stevenson, Mount Lothian	Cheviot Gimmers	Med. Silver Medal 0 10 6
<i>Northern Pastoral Club</i>	John Baird of Knoydart	Cheviot Tup	Silver Medal 0 18 0
	Peter Robertson, Achilly	do.	Med. Silver Medal 0 10 6
	Walter Mundell, Gollanfield	Cheviot Shear. Tup	Med. Silver Medal 0 10 6
	Walter Mundell, Gollanfield	Cheviot Ewes	Med. Silver Medal 0 10 6
<i>Nithsdale</i>	Walter Mundell, Gollanfield	Cheviot Gimmers	Med. Silver Medal 0 10 6
	James Brydon, Kinnelhead	Cheviot Tup	Med. Silver Medal 0 10 6
	James Brydon, Kinnelhead	Cheviot Shear Tup	Med. Silver Medal 0 10 6
			£498 6 6

## SPECIAL GRANTS.

<i>Edinburgh Christmas Club</i>	Vote in aid of Premiums,	. . . . .	£50 0 0
<i>Glasgow Agricultural Society</i>	do.	. . . . .	50 0 0
<i>Ayrshire Association</i>	Vote to Dairy Produce Show at Kilmarnock,	. . . . .	20 0 0
<i>Unst Society</i>	Vote in aid of Premiums,	. . . . .	10 0 0
<i>Westray Society</i>	Vote in aid of Premiums,	. . . . .	3 0 0
<i>Orkney Society</i>	Vote in aid of Premiums,	. . . . .	3 0 0
			£136 0 0

## MEDALS IN AID OF PREMIUMS GIVEN BY LOCAL SOCIETIES.

Medium Silver Medals were awarded to the following:—

## ABERDEENSHIRE.

NAME OF DISTRICT.	MEDAL AWARDED TO	FOR
<i>Donside Club</i>	Sir William Forbes of Craigievar, Bart.	Swedish Turnips
	Sir William Forbes of Craigievar, Bart.	Yellow Turnips
<i>Ebriestide</i>	John Grant, Methlick	Polled Bull
	William Balfour, Pitlochrie	Draught Mare
<i>Garioch</i>	Henry Gordon of Manar	Swedish Turnips
	William Phillip, Lofthillock	Yellow Turnips
<i>Insh</i>	Mrs Beattie, Dunnydeer	Poultry
	Mrs Esslemont, Kirkton	Cured Butter
<i>Inverurie</i>	George Bean, Balquhain	Polled Bull
	James Durno, Jackston	Shorthorn Bull
<i>Kinnethmont</i>	Mrs Bruce, Nether Boddam	Shorthorn Bull
	John Law, New Kelg	Shorthorn Heifer
<i>Mar</i>	James Moir, Mains of Wardhouse	Polled Cow
	William Warrack, New Mill	Shorthorn Bull
	Silvester Campbell, Kinellar	Shorthorn Cow
	George Hamilton, Skene House	Polled Heifer
<i>New Aberdour</i>	Gavin Watt, Glasgoego	Draught Filly
	William Beedie, Pitgair	Polled Bull
	Alexander Lovie, Towle	Shorthorn Cow
	Robert Pittendreich, Whitewell	Brood Mare
<i>North of Scotland</i>	Alexander Lovie, Towle	Collection of Seeds
	William Cardno, Tillnamolt	Collection of Roots
	Evan Baillie of Dochfour	Collection of Turnips
	George Tytler, Milton of Corsindae	Collection of Potatoes
<i>Vale of Ayrford</i>	R. F. O. Farquharson, Haughton	Swedish Turnips
	R. F. O. Farquharson, Haughton	Yellow Turnips

## ARGYLLSHIRE.

<i>Lismore</i>	Dugald M'Intyre, Frackersalg	Highland Bull
	Dugald M'Gregor, Auchnaran	Brood Mare

NAME OF DISTRICT.	MEDAL AWARDED TO	FOR
<b>AYRSHIRE.</b>		
<i>Ardrossan</i>	Robert Young, Yonderton James Motlon, Brewerylands	Cheese Cured Butter
<i>Coylton and Stair</i>	John Ritchie, Broadwood E. & M. Thom, Boymanston	Ayrshire Cow Clydesdale Gelding
<i>Craigie</i>	James Picken, Laigh Langside William Brown, Lodgebush	Ayrshire Bull Ayrshire Cow
<i>Cumnock</i>	James Picken, Laigh Langside R. & P. Wardrope, Garlaff	Clydesdale Mare Ayrshire Bull
<i>Dalrymple</i>	William Guthrie, Cumnock John Hunter, Nursery	Ayrshire Cow Ayrshire Cow
<i>Darvel</i>	John Templeton, Carnochan Allan Wylie, Foulpale	Draught Gelding Sweet Milk Cheese
<i>Dundonald</i>	John Richmond, Intax Cottage Hon. G. R. Vernon, Auchans	Roots Ayrshire Bull
<i>Galston</i>	Hon. G. R. Vernon, Auchans Robert Hutchison, Craigsland	Ayrshire Cow Clydesdale Mare
<i>Girvan</i>	Alexander Steel, Burnhead Alexander Barclay, Righcad	Ayrshire Cow Ayrshire Bull
<i>Irvine</i>	John Taylor, Hill John Semple, Drumburle	Clydesdale Gelding Ayrshire Cow
<i>Kilmarnock</i>	William Davidson, Craigcannochy William Brown, Cartleburn	Blackfaced Tup Ayrshire Cow
<i>Kirkmichael</i>	Robert Hutchison, Craigsland D. C. Willison, Dalpeddar	Clydesdale Mare Ayrshire Bull
<i>New Cumnock</i>	Hugh Roger, Hillhead James Blair, Holmes	Ayrshire Cow Ayrshire Bull
<i>Sorn</i>	William Anderson, Barneil James Hunter, Cairnhill	Ayrshire Heifer Ayrshire Heifer
<i>Stewariton</i>	Adam Bryce, Smithstone William Guthrie, Ayr	Draught Mare Ayrshire Bull
<i>Symington</i>	William Howat, Burnfoot James Picken, Laigh Langside	Ayrshire Cow Clydesdale Mare
<i>Tarbolton</i>	John Mitchell, Lochingerroch William Guthrie, Ayr	Blackfaced Tup Ayrshire Bull
<i>Spey, Avon, and Fiddochside</i>	John Ritchie, Broadwood James Baird, Blinburn	Ayrshire Cow Clydesdale Mare
<i>Lammermoor</i>	Thomas Retson, Lintmill J. & R. Stevenson, Anchentiber	Poultry Ayrshire Bull
<i>Bute</i>	A. R. Foulds of Clerkland Alexander Paton, Stonecalsey	Ayrshire Cow Ayrshire Bull
<i>Dumbartonshire</i>	Alexander Paton, Stonecalsey Hugh Wilson, Carnigillan	Ayrshire Cow Ayrshire Cow
<i>Lammermoor</i>	Matthew Barbour, Burnmoor	Brood Mare
<b>BANFFSHIRE.</b>		
<i>Spey, Avon, and Fiddochside</i>	Mrs Kinloch Grant, Arndilly John Gordon, Backside	Shorthorn Bull Blackfaced Tup
<i>Lammermoor</i>	John M'Pherson, Blacksboat C. Stewart, Tomindugle	Barley Oats
<b>BERWICKSHIRE.</b>		
<i>Lammermoor</i>	A. R. Haig, Quarryford T. W. & W. Elliot, Harehead	Half-bred Gimmers Half-bred Gimmers
<b>BUTESHIRE.</b>		
<i>Bute</i>	Archibald M'Kay, Kilcattan Mill John Stevenson, Kilbride	Ayrshire Cow Clydesdale Mare
<i>Dumbartonshire</i>	Archibald Lamont, Stuck William Scott, Condorat	Blackfaced Tup Ayrshire Bull
<i>Dumbartonshire</i>	William Cullen, Croy Matthew Dunlop, Waterhead	Ayrshire Cow Brood Mare
<i>Dumbartonshire</i>	Duncan M'Farlane, Torr David Riddell, Kilbowie	Ayrshire Bull Ayrshire Cow

NAME OF DISTRICT.	MEDAL AWARDED TO	FOR
<b>DUMFRIESSHIRE.</b>		
<i>Annandale</i>	John Johnstone of Halleaths Robert Jardine of Castlemilk Williamson & M'Crone, Castlemilk	Shorthorn Bull Galloway Heifer Ayrshire Cow
<i>Sanquhar</i>	John Lawrie, Shieldhill	Half-bred Hogs
	The Duke of Buccleuch and Queensberry, Drumlanrig	} Ayrshire Bull
	The Duke of Buccleuch and Queensberry, Drumlanrig	
	Thomas Kerr, Whitehill	Ayrshire Cow
	John Wightman, Southmaids Daniel Craig, Barr	Draught Filly Cheviot Tup Blackfaced Tup
<b>EDINBURGHSHIRE.</b>		
<i>Western District of</i>	John Meikle, Seafield	Ayrshire Bull
<i>Mid-Lothian</i>	John Meikle, Seafield John Waddell, Bathgate John Waddell, Bathgate	Ayrshire Cow Clydesdale Entire Colt Clydesdale Mare
<b>FIFESHIRE.</b>		
<i>Dunnikier</i>	David Stark, Wester Bogle Captain Wylie, Mitchestone Robert Balfour, Muttonhall	Shorthorn Bull Shorthorn Cow Brood Mare
<i>Windygates</i>	John Balfour of Balbirnie Alexander Gibb, Auchmuty	Shorthorn Bull Draught Mare
<b>INVERNESS-SHIRE.</b>		
<i>Glen Urquhart</i>	D. Grant, Polmalle James Shaw, Clune More Andrew Mackintosh, Upper Drumbule	Shorthorn Bull Cross Heifer Cured Butter
<i>Northern Counties</i>	James Merson, Craigwillie	Cross Ox
<i>Fat Show Club</i>	A. Matheson of Ardross, M.P. Lord Lovat Lord Lovat Sir George Macpherson Grant, Bart. Mrs Ferguson, Inverness	Cross Heifer Cheviot Wethers Pig Regent Potatoes Poultry
<i>Strathglass</i>	George M'Kenzie, Balmore Sir D. C. Marjoribanks of Guisachan, Bart., M.P.	Sandy Oats Fine-fellow Oats
<b>KINCARDINESHIRE.</b>		
<i>Fettercairn</i>	James Kinross, Coldstream James Wallace, Balbegno William Hogg, Fettercairn	Shorthorn Bull Brood Mare Green Crop
<i>Strachan</i>	Alex. Laing, Banchory Mrs Laing, Lerrachmore	Collection of Roots Poultry
<b>LANARKSHIRE.</b>		
<i>Biggar</i>	John Inch, Howburn John Thorburn, Hyndshawland John White of Netherurd	Ayrshire Cow Brood Mare Leicester Tup
<i>Cadder</i>	Thomas Stark, Bishopbriggs John Murdoch, Bishopbriggs	Ayrshire Cow Clydesdale Mare
<i>Carnwath</i>	William Wilson, Yett William Muir, Eastersills Thos. Shaw, Anston Dunsyre	Clydesdale Filly Leicester Tup Blackfaced Tup
<i>Carmichael</i>	Hector F. M'Lean, Carnwath House William Muir, Eastersills	Sow Leicester Tup
<i>Stonehouse</i>	William Bell, Sherifflats Allan Allison, Gozulton James Allan, Westmaids	Blackfaced Tup Ayrshire Bull Ayrshire Cow
<i>Upper Ward of Lanarkshire</i>	Thomas Muir, Bowhouse Robert Sandilands, South Cumberhead	Ayrshire Bull Blackfaced Tup
<b>ORKNEY.</b>		
<i>Rousay</i>	William Seatter, Saviskail David Inkster, Innister	Shorthorn Bull Brood Mare

NAME OF DISTRICT.	MEDAL AWARDED TO	FOR
	PERTHSHIRE.	
<i>M. Dist. of Athole and Tullymet</i>	William Dick of Tullymet	Turnips
	RENFREWSHIRE.	
<i>Eaglesham</i>	James Struthers, Eaglesham	Ayrshire Cow
<i>Mearns</i>	Robert Harvie, Nether Calm	Ayrshire Cow
	John Harvie, Langton	Draught Mare
<i>Neilston</i>	John Holm, Jaapston	Ayrshire Bull
	John Holm, Jaapston	Ayrshire Cow
	ROSS-SHIRE.	
<i>Wester Ross</i>	D. G. Ross, Dingwall	Shorthorn Bull
	John Stirling of Fairburn	Draught Filly
	Peter B. M'Intyre, Findon Mains	Potato Oats
	STIRLINGSHIRE.	
<i>Bucklyvie and Gart- more</i>	John More, Fordhead	Ayrshire Cow
<i>Gargunnock</i>	Robert M'Arthur, Borland	Clydesdale Mare
	Peter Dewar, King's Park	Shorthorn Bull
	Matthew C. Stark, The Manse	Ayrshire Cow

149 Medium Silver Medals, £78, 4s. 6d.

## PLOUGHING COMPETITIONS.

In 1877-78 the Society's Minor Silver Medal was awarded at 210 Ploughing Competitions as follows:—

NO.	NAME OF SOCIETY.	PLACE OF COMPETITION.	SILVER MEDAL AWARDED TO
1.	Aboyne.	Haugh of Aboyne.	James Esson, Mill of Dess.
2.	Auchindoir, Kildrummy, &c.	Templeton.	John Reid, Nether Kildrummy.
3.	Belhelvie.	Mains of Shiels.	Robert Burnett, Damhead.
4.	Braemar.	Balnellan.	Samuel Craigie, Braemar.
5.	Buchan (Deer District).	Netherton of Inverveddie.	John Gray, Meikle Dens.
6.	Buchan (Fraserburgh District).	New Mill.	Alex. Turriff, Hillhead of Crimond
7.	Corgarff.	Ordgarff.	John Tait, jun., Bridgend.
8.	Countesswells.	Gairen.	James Watt, North Lasts.
9.	Crathie.	Mains of Abergeldie.	James Esson, Micras.
10.	Ebriesside.	Auchnavaird.	James Beaton, Smiddyseat.
11.	Echt, Skene, and Midmar.	South Kirkton.	Robert Barron, Templefold.
12.	Fintray.	Newmill.	Alex. Joss, Desblair.
13.	Finzean.	Homefarm of Finzean.	David Coult, Tillygarmond.
14.	Fyvie.	Andrewsford.	John Fyvie, Blairpool.
15.	Leochel Cushnie.	Old Manse.	John Dunn, Oldmanse.
16.	Lumphanan.	Tulloch.	James Watt, Kintochoer.
17.	New Aberdour.	Aberdour House.	Andrew Pratt, Monkswell.
18.	Newhills.	Springhill.	James Henry, Howmoss.
19.	New Machar.	Bridgefoot.	William Elrick, Backhill.
20.	North-East Aberdeenshire.	Pykerstone.	William Michie, Mid Ardlaw.
21.	Peterculter and Banchory- Devenick.	} Braeside.	James Dunbar, Colthill.
22.	Strathbogie.		Chas. Milne, Corse of Kinnoir.
23.	Strichen.	Corselestone.	Andrew Quirie, Auchtygilla.
24.	Turriff.	Mains of Kindrought.	Alex. Taylor, Parkside.
25.	Vale of Alford.	Strocherie.	William Gilbert, Shiel.
		Mosshead.	

NO.	NAME OF SOCIETY.	PLACE OF COMPETITION.	SILVER MEDAL AWARDED TO
ARGYLLSHIRE.			
26.	Ardnamurchan.	Achateny.	Donald MacIachlan, Branault.
27.	Duror.	Ardseal.	John Colquhoun, South Cuil.
28.	Islay, Jura, and Colonsay.	Islay Housefarm.	Chas. M'Arthur, Daill.
29.	Kilfinan.	Kilbride.	John Duncan, Stealig.
30.	Killean and Kilcalmonnell.	Tayinloane.	Chas. M'Kinven, Auchinadrian.
31.	Kintyre.	Chiskan.	Duncan M'Sporran, Tirfergus.
32.	Lismore.	Pirafour.	John M'Donald, Achnacross.
33.	Nether Lorn.	Kilbride.	Alex. M'Coil, Ballechuan.
34.	Salen.	Callachilly.	Ebenezer Marshall, Ledmore.
35.	West of Mull.	Ardfenaig.	N. M'Niven, Ardfenaig.

## AYRSHIRE.

36.	Ayr and Alloway.	Masonhill.	John Hannah, Broomberry.
37.	Coylton.	Hole.	James Young, Bridgend.
38.	Dalry.	Hawhill.	James Stirrat, Lochridge.
39.	Dalrymple.	Holehouse.	James Blair, Holms.
40.	Fenwick.	Glenleitch.	Robert Smith, Wyllieland.
41.	Galston.	Pearsland.	James Paterson, Middlethrid.
42.	Kilmarnock.	Kilmarnock.	John Steel, High Newton.
43.	Kirkmichael.	Trochain.	James Eccles, Knowside.
44.	Kirkoswald.	Kirklands.	Wm. Ramsay, East Balvalrd.
45.	Monkton and Prestwick.	Brocket.	Jas. Seton, Grangefield Mains.
46.	New Cumnock.	Rottenyards.	Robert Vallance, Calton.
47.	Ochiltree.	Bardarroch.	Robert Osborne, Lochmark.
48.	Sorn and Dalgain.	Dalgain.	Chas. Shaw, Blackdyke.
49.	Stewarton.	Causeyhead.	John M'Kenna, Torranyard.
50.	Straiton.	Straiton.	Hugh M'Culloch, Keirsmill.
51.	Tarbolton.	Mosside.	George Shankland, Benstone.
52.	West Kilbride.	Drumilling.	Andrew Dinning, Woodside.

## BANFFSHIRE.

53.	Aberlour.	Bush.	James M'Grigor, Aberlour.
54.	Boharm.	Belnagarrow.	Wm. Riach, Belnagarrow.
55.	Braes of Glenlivet.	East Aucharraich.	George Innes, Easterton.
56.	Gartly.	Sanquhar.	George Hay, Blackburn.
57.	Keith.	Auchairn.	James Moggach, Poolside.
58.	Marnoch.	Mains of Crannak.	James Weir, Thorax.
59.	Spey, Avon, and Fiddochside.	Lagmore.	Alex. M'Kenzie, Cragganmore.
60.	Starthavon.	Ruthven.	Donald Smith, Balmend.
61.	United Banffshire.	Brigshilloch.	Alex. Still, Culbeuchly.

## BERWICKSHIRE.

62.	Lammermoor.	Castle Mains.	William Hill, Burnside.
63.	Lauderdale.	Lauder Haugh.	Andrew Tofts, Hindsie Hill.

## BUTE AND ARRAN.

64.	Arran.	Balnacoole.	David M'Donald, West Bannan.
65.	Bute.	Ardnative.	Arch. M'Kay, Kiltattan Mill.

## CAITHNESS-SHIRE.

66.	Caithness.	Foras Mains.	William Dunnet, Philip Mains.
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## CLACKMANNANSHIRE.

67.	Clackmannanshire.	Loanside.	James Reid, Meadowhill.
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## DUMBARTONSHIRE.

68.	Cadder.	Lenzie.	Geo. Clark, Brackenbras.
69.	Cumbernauld.	Mainshead.	Matthew Kirkwood, Cartbrane.
70.	Kilmarnock and Bowhill.	Blairrie.	James Miller, Finnery.
71.	Kirkintilloch.	Orchardton.	Matthew Barrie, Hayston.

## DUMFRIESSHIRE.

NO.	NAME OF SOCIETY.	PLACE OF COMPETITION.	SILVER MEDAL AWARDED TO
72.	Canonbie.	Mouldyhill.	George Bell, Shillingmoss.
73.	Glencalm.	Upper Kirkcudbright.	William Weir, Gordiston.
74.	Holywood.	Summerhill.	Robert Johnston, Rosehills.
75.	Keir.	Glenhead.	Wm. Halliday, Newhall.
76.	Penpont.	Cairnmill.	Andrew Hughes, Tibbers.
77.	Sanquahar and Kirkconnel.	Kirkconnel.	John Gillespie, Highcairn.
78.	Westerkirk.	Midknock.	Alex. Murray, Baillichill.

## EDINBURGHSHIRE.

79.	Currie.	Currievale.	Alex. Whigham, Balleny.
80.	Glencrosa.	Glencross Mains.	Jas. Young, Milton Mill.
81.	Lasswade.	Wester Melville.	Robert Melrose, Loanhead.
82.	Mid-Lothian.	Kirkcettle.	Alex. Ramsay, Mayfield.
83.	Penicuik.	Halls.	Lawrence Brown, Roseview.
84.	West Calder.	Garieside.	John Kirkwood, Hartwood.

## ELGINSHIRE.

85.	Elgin Parish (Western Dist.)	Upper Bogside.	Alex. Edward, Woodside.
86.	Morayshire.	Linkwood.	Walter Grant, Scotstone Hill.
87.	Raploch.	Brockloch.	D. Urquhart, Hillhead.
88.	Roths and Speymouth.	Dandaletth.	James Neish, Bauds.
89.	Strathspey.	Bog of Advie.	James M'Gregor, Mains of Advie.
90.	Upper District of Roths and Knockando.	Burnside.	James Ross, Mains of Balintomb.
91.	Urquhart.	Dallas.	John Phemister, Torwinnie.
92.	Urquhart (Open).	Jointure Leuchars.	Alex. Sandieson, Lochhill.

## FIFESHIRE.

93.	Crossgates.	Keirsbeath.	James Robb, Chamberfield.
94.	Dunnikier.	Bogle Mains.	Andrew Wright, Dunnikier.
95.	East of Fife.	Overkelle.	Thomas Clark, Balcormo.
96.	Howe of Fife.	Skelpie.	David Pottie, Cultnill.
97.	Largo.	Pitcrewie.	Geo. Crichton, Annfield.
98.	Leslie.	Balsillie.	George Galloway, Balingall Mill.
99.	North of Fife.	Hillcarnie.	John Myles, Myrecairn.

## FORFARSHIRE.

100.	Islay.	Formall.	David Fenton, Westfield.
101.	Kirriemuir.	Cairnleith.	Wm. Gar, Sandyford.
102.	Mains, Strathmartine, &c.	Lawton.	Thomas Anderson, Magdalenos.
103.	Tannadice and Oathlaw.	Nether Balgillo.	James Mackintosh, Forrest Muir.

## INVERNESS-SHIRE.

104.	Abernethy.	Dell.	Donald M'Intosh, Croftonan.
105.	Badenoch and Rothiemurchus.	Glenruim.	Lauchlan Macpherson, Kerrow.
106.	Duthil.	Benanach.	James Young, Tullochgorm.
107.	Glen Urquhart.	Balmacraan.	Roderick White, Drumbuie.
108.	Inverness.	Seafeld.	Alex. Cameron, Cradlehall.
109.	Nether Lochaber & Ardgour.	Nether Ballachulish.	Donald Cameron, Glenshillock.
110.	Strathdearn.	Garbole.	William Fraser, Laggan.
111.	Stratherrick.	Errogie.	Alex. Shaw, Old Town.
112.	Strathglass.	Erechless Mains.	Colin Munro, Kerrow.
113.	Strathnairn.	Drumore of Cantray.	Alex. Fraser, Cantraydown.
114.	Wester Strathnairn.	Inverernie.	Alex. Forbes, Milton of Farr.

## KINCARDINESHIRE.

115.	Deeside.	Mill of Cammie.	David Countts, Tillygarmouth.
116.	Durris.	Wester Durris.	James Brebner, Manse of Durris.
117.	Maryculter.	Mains of Maryculter.	Alex. Walker, Westside.
118.	Muchalls and Cookney.	Mains of Cookney.	John Ross, Muchalls.
119.	Nigg.	Aultens.	Adam Walker, Altens.
120.	Portlethen.	Mains of Portlethen.	Alex. Yule, Mains of Findon.
121.	Rickarton, Urie, &c.	Blairs.	Robert King, Tewel.
122.	Strachan.	Dalbrake.	John Simpson, Waulkmill.



## STEWARTRY OF KIRKCUDBRIGHT.

NO.	NAME OF SOCIETY.	PLACE OF COMPETITION.	SILVER MEDAL AWARDED TO
123.	Kirkcudbright.	Cannee.	Edward Loan, Low Banks.
124.	Kirkpatrick Durham.	Barmoffity.	Robert Hannah, Blackpark.
125.	New Abbey.	Ingliston.	John Mundell, Craigend.
126.	Penningham, &c.	Barholm Mains.	Wm. Mc'Connell, Balterson.
127.	Troqueer.	Garroch.	James Mc'Ghie, Carruchan.

## LANARKSHIRE.

128.	Calderwaterhead.	Easterhouse.	William Aitkenhead, Carfin.
129.	Carstairs.	Columbe.	James Tervit, Netherton.
130.	Crawford and Crawfordjohn.	Craighead.	Edward French, Eastertown.
131.	Dipool Water.	Crothead.	William Crawford, jun., Hillhead.
132.	East Kilbride.	Lickprivick.	Alexander Fleming, Milton.
133.	Hamilton, &c.	Newton.	James Brown, Newton.
134.	Hamilton.	Simpsonland.	Robert Meikleham, Newhouse.
135.	New Monkland.	Rochsolloch.	Robert Robb, Rochsolloch.
136.	Old Monkland.	Old Monkland.	Robert Robb, Rochsolloch.
137.	Upper Ward.	Burnhouse.	Thomas Black, Bankhead.
138.	West Linton & Dolphinton.	New Mills.	Robert Graham, Hyndford.
139.	Wiston and Robertson.	Wiston Mill.	Andrew Watson, Chesterhall.

## LINLITHGOWSHIRE.

140.	Blackburn.	Murrayfield.	James Neill, Torbanehill Mains.
141.	Kinniel.	Rousland.	Robert Brownlee, jun., Kinniel Mills.

## NAIRNSHIRE.

142.	Ardelach.	Belivat.	Peter Mc'Gregor, Balnught.
143.	Nairnshire.	Auchnacloich.	Alexander Tulloch, Blairmore.

## ORKNEY.

144.	Evie and Rendall.	Breck.	William Sinclair, Dyke.
145.	Orkney.	Widford.	James Craigie, Birstane.
146.	Orphir.	Holbister.	Wm. Groundwater, Swambister.
147.	Rousay and Velra	Westness.	James Sinclair, Stennisgorn.
148.	St Andrews.	Hall of Tankerness.	Gilbert Voy, Boon the Toon.
149.	Shapinsay.	Strathore.	William Craigie, Hollandsgarth.
150.	South Ronaldshay.	Hillside.	John Sinclair, Smiddybanks
151.	Stronsay.	Airy.	James Dennison, Fingoe.
152.	West Mainland.	Nisthouse.	Alexander Harvey, Garson.
153.	Westray.	Gallowhill.	John Hareus, Brough.

## PEEBLESHIRE.

154.	Eddlestone.	Wormiston.	John Fleming, Darnhall.
155.	Newlands.	Dovecot.	Robert Graham, Hyndford.
156.	Peeblesshire (Open).	Hallmyre.	Thomas Peden, Crosshouse.

## PERTHSHIRE.

157.	Ardoch.	Redford.	James Barclay, Redfords.
158.	Arnprior.	Tipperdarroch.	John Watson, Strewiebank.
159.	Blair Drummond, &c.	Easter Cambusdrennie.	Alexander Aitken, Baada.
160.	Blairingone.	Blairingone Mains.	William Reid, Meadowhill.
161.	Breadalbane.	Boreland.	Thomas Dunn, Remoney.
162.	Bridge of Earn.	Wallaceton.	Daniel Seaton, Brickhall.
163.	Callander.	Ballachallan.	Alexander Stewart, Bog Lot.
164.	Comrie, &c.	Wester Tuilybannocher.	William Mc'Kenzie, Balmulck.
165.	Culross.	Gallowridge.	George Cousin, Saline Shaw.
166.	Drummond Castle.	Muirside.	Robert Crow, Drumdowie.
167.	Foss and Strathummel.	Borenich.	William Mc'Lauchlan, Frenich.
168.	Glenalmond.	Corriemuckloch.	Peter Comrie, Buchanty.
169.	Glenlyon.	Milton Roro.	John Mc'Kinnon, Moar.
170.	Glenquaich.	Kinloch.	John Mc'Gregor, Lochan.
171.	Kilnadock.	Inverardoch Mains.	John Dick, Ballochneck.
172.	Logie and Lecropt.	Blairlogie Mains.	Andrew Galloway, Cornton.
173.	Madderty.	Todstown.	John Sorbie, Newraw.
174.	Mid District of Athole, &c.	Haugh of Tullymet.	Duncan Brown, Pitcastle.

NO.	NAME OF SOCIETY.	PLACE OF COMPETITION.	SILVER MEDAL AWARDED TO
175.	Moulin.	Donavourd.	James Fraser, Drumcherry.
176.	Port of Montelith.	Blaircressnock.	Duncan Dougal, Blaircressnock.
177.	Rannoch.	Camuserricht.	James Scott, Tullochcrosk.
178.	St Martins.	South Town.	John Fleming, Turreylaw.
179.	Stormont Union.	Delvine.	William Ramsay, Meikle Fardle.
180.	Strathbraan.	Borlick.	John Stewart, Kinloch Lodge.
181.	Strathearn (Central).	Belhie.	Peter Ewan, Dalreoch.
182.	Strathord.	Newmill.	James Malcolm, Farkhill.
183.	Struan.	Auchinree.	Duncan Stewart, Bocheonie.
184.	Thornhill.	Little Ward.	Alex. M'Pherson, Stock o' Broom.
185.	Upper Strathardle, &c.	Straloch.	Alexander Petrie, Cullalonia.
186.	Weem.	Weem Hotel Farm.	John Forbes, Glassie.

RENFREWSHIRE.

187.	Cathcart and Eastwood.	Clincart.	Robert Peddie, Mains.
188.	Erskine.	Gladstone.	Robert Brown, Newton.
189.	Greenock, Gourock, &c.	Cove.	John Millar, Levan.
190.	Kilbarchan.	Barbush.	Robert Burns, Barneigh.
191.	Kilmalcolm, &c.	Branchal.	James Laing, Braehead.
192.	Renfrewshire.	Walkinshaw.	Christopher Strang, Whiteford.

ROSS-SHIRE.

193.	Black Isle.	Fettes.	James Fraser, Balnakyle.
194.	Easter Ross.	Meddat.	John Murray, Belnagore.
195.	Edderton.	Edderton.	Lachlan Campbell, Balblair.
196.	Ferrindonald.	Teandallan.	Alexander M'Donald, Woodlands.
197.	Ferintosh.	Conan Mains.	William M'Callum, Conan Mains.
198.	Parish of Resolis.	Mains of St Martins.	Thos. Murray, Mains of St Martins.
199.	Tarbat.	Brucefield.	David Smart, Brucefield.

ROXBURGH.

200.	Lilliesleaf.	Bewliehill.	Charles White, Spittal.
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STIRLINGSHIRE.

201.	Baldernock.	Back o' Hill.	Robert Reid, South Bardowie.
202.	Bannockburn, Plean, &c.	Croftside.	James Paterson, Mosside.
203.	Craigforth and Touch.	Shaw of Touch.	George Stewart, Raploch.
204.	Easter Dist. of Stirlingshire.	Craigburn.	Malcolm M'Intyre, Skipperton.
205.	Strathendrick.	Westerton of Letter.	Walter Brown, Auchentrolg.

SUTHERLANDSHIRE.

206.	Skibo.	Skibo Mains.	James Murray, Pulrossie.
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WIGTOWNSHIRE.

207.	Kirkmaiden.	Low Drumore.	Thomas M'Colm, Stockmill.
208.	Machara.	Knockencurr.	Alexander Kevan, Inch.
209.	Old Luce.	Droughdone.	James M'Kellop, Whitecrook.
210.	Whithorn and Glasserton.	Longhill.	William Melvin, Mains.

210 Minor Silver Medals, £63.

V.—COTTAGES AND GARDENS.

1. BEST KEPT COTTAGES AND GARDENS.

ABERDEENSHIRE.

<i>Methlick</i> .....	Arthur Forbes	Cottage	£1 and Minor Silver Medal	£1	6	0
	John Milne	do.			0	10
	George Moir, sen.	do.	Minor Silver Medal		0	6
	Arthur Forbes	Garden	£1 and Minor Silver Medal	1	6	0
	William Ligertwood	do.			0	10
	George Moir, sen.	do.	Minor Silver Medal		0	6

Carry forward, £4 4 0

				Brought forward,	£4 4 0
EDINBURGSHIRE.					
<i>Calders Union</i> .....	James Weir	Cottage			1 0 0
	Edward Blane	do.			0 10 0
	James Brown	Garden	£1 and Minor Silver Medal		1 6 0
	James Weir	do.			0 10 0
	William Hope	do.	Minor Silver Medal		0 6 0
FIFESHIRE.					
<i>Newburgh</i> .....	William Coventry	Cottage	£1 and Minor Silver Medal		1 6 0
	George Dowle	do.			0 10 0
	John Young	do.	Minor Silver Medal		0 6 0
	James Balfour	Garden	£1 and Minor Silver Medal		1 6 0
	Robert Nairn	do.			0 10 0
	George Dowle	do.	Minor Silver Medal		0 6 0
<i>North of Fife</i> .....	James Maxwell	Cottage	£1 and Minor Silver Medal		1 6 0
	Joseph Seth	do.			0 10 0
	James Auchterlonie	do.	Minor Silver Medal		0 6 0
	William Leslie	Garden	£1 and Minor Silver Medal		1 6 0
	James Maxwell	do.			0 10 0
	James Wannan	do.	Minor Silver Medal		0 6 0
KINCARDINESHIRE.					
<i>Mearns</i> .....	David Carnegie	Cottage	£1 and Minor Silver Medal		1 6 0
	John Silver	do.			0 10 0
	John Bruce	do.	Minor Silver Medal		0 6 0
	David Carnegie	Garden	£1 and Minor Silver Medal		1 6 0
	C. Anderson	do.			0 10 0
	Alex. Stephen	do.	Minor Silver Medal		0 6 0
LINLITHGOWSHIRE.					
<i>Kirkliston</i> ...	Mrs Masterton	Cottage	£1 and Minor Silver Medal		1 6 0
	Mrs Kinnaird	do.			0 10 0
	Mrs Headridge	do.	Minor Silver Medal		0 6 0
	Robert Airbuckle	Garden	£1 and Minor Silver Medal		1 6 0
	Arch Headridge	do.			0 10 0
	Alex. Kinnaird	do.	Minor Silver Medal		0 6 0
	John Smith	do.	Minor Silver Medal		0 6 0
(1st Prize in 1877)					
PERTSHIRE					
<i>Braco</i> .....	Thomas Marshall	Cottage	£1 and Minor Silver Medal		1 6 0
	Alex. Scott	do.			0 10 0
	John Dewar	do.	Minor Silver Medal		0 6 0
	David Monteath	Garden	£1 and Minor Silver Medal		1 6 0
	Alex. Scott	do.			0 10 0
	Thomas Marshall	do.	Minor Silver Medal		0 6 0
<i>Dunbarney</i> .....	Mrs Wallace	Cottage	£1 and Minor Silver Medal		1 6 0
	Mrs Dobbie	do.			0 10 0
	Mrs Barlas	do.	Minor Silver Medal		0 6 0
	Mrs Dewar	do.	Minor Silver Medal		0 6 0
(1st Prize in 1877)					
	Lawrence Dewar	Garden	£1 and Minor Silver Medal		1 6 0
	John Sime	do.			0 10 0
	Ebenezer Wallace	do.	Minor Silver Medal		0 6 0
<i>Forgandenny</i> .....	Mrs Nicholson	Cottage	£1 and Minor Silver Medal		1 6 0
	Arch. Fare	do.			0 10 0
	James Anderson	do.	Minor Silver Medal		0 6 0
	Alex. M. Nicholson	Garden	£1 and Minor Silver Medal		1 6 0
	Arch. Fare	do.			0 10 0
	Andrew M'Ara	do.	Minor Silver Medal		0 6 0
<i>Muthil</i> .....	Mrs Lumsden	Cottage	£1 and Minor Silver Medal		1 6 0
	Miss L Bayne	do.			0 10 0
	Mrs Graham	do.	Minor Silver Medal		0 6 0
				Carry forward,	£39 18 0

		Brought forward,	£39 18 0
<i>Muthil</i> .....	Mrs P. Donaldson	Cottage Minor Silver Medal	0 6 0
	(1st Prize in 1877)		
	James Richard	Garden	£1 and Minor Silver Medal
	John Lumsden	do.	0 10 0
	Miss Hutton	do.	Minor Silver Medal
	Mrs P. Donaldson	do.	Minor Silver Medal
	(1st Prize in 1877)		0 6 0
			<hr/>
			£42 12 0
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## 2. MEDALS FOR COTTAGES AND GARDENS AND GARDEN PRODUCE.

Medium Silver Medals were awarded to the following:—

AYRSHIRE.		
<i>Stewarton</i> .....	Robert M'Crae	Garden Produce.
EDINBURGSHIRE.		
<i>Roslin</i> .....	John Black	Garden and Garden Produce.
	Samuel Millar	Flower Plot.
FIFESHIRE.		
<i>Auchtermuchty and Strathmiglo</i> .....	James Somers	Vegetables.
	Richard Baird	Garden.
<i>Dysart</i> .....	John Watson	Garden.
	Joseph M'Kinney	Flower Plot.
INVERNESS-SHIRE.		
<i>Badenoch and Rothiemurchus</i> .....	Alexander Grant	Cottage.
	Alexander Macpherson	Garden.
KINCARDINESHIRE.		
<i>Fordoun, Glenbervie, and Arbuthnot</i> ....	William Annandale	Vegetables.
	Robert Murray	Flowers.
LANARKSHIRE.		
<i>Albert Gardens</i> .....	Alexander Muirhead	Best Kept Plot.
	Henry Winslow	Best Cropped Plot.
<i>Bothwell</i> .....	Robert Altchison	Cottage.
	Gavin Hewitt	Garden.
PERTHSHIRE.		
<i>Logiealmond and Glenalmond</i> .....	William Cameron	Cottage.
	Robert Wilson	Garden.

17 Medium Silver Medals, £8, 18s. 6d.

## VI.—VETERINARY DEPARTMENT.

### ANNUAL EXAMINATION—APRIL 1878.

John Malcolm, Montrose,	General Examination,	Med. Gold Medal,	£6 2 0
Frank Bottomley, Oldham,	Practical Examination,	Med. Gold Medal,	6 2 0

### CLASS EXAMINATIONS—APRIL 1878.

#### EDINBURGH VETERINARY COLLEGE.

John Blench, Thornley,	Anatomy,	Silver Medal,	0 16 0
John Malcolm, Montrose,	Physiology,	Silver Medal,	0 16 0
John Malcolm, Montrose,	Chemistry,	Silver Medal,	0 16 0
Henry E. Poole, U.S. America,	Materia Medica,	Silver Medal,	0 16 0
John Malcolm, Montrose,	Botany,	Silver Medal,	0 16 0
John Malcolm, Montrose,	Horse Pathology,	Silver Medal,	0 16 0
John Malcolm, Montrose,	} Cattle Pathology,	{ Silver Medal,	0 16 0
John Blench, Thornley,		{ Silver Medal,	0 16 0
George H. Watkins, Tredegar,	Practice and Clinique,	Silver Medal,	0 16 0

Carry forward, £19 8 0

			Brought forward,	£19 8 0
NEW VETERINARY COLLEGE, EDINBURGH.				
W. H. Bridge, Oldham,	Horse Pathology,	Silver Medal,	0 16 0	
Thomas H. Lewis, Crewe,	Physiology,	Silver Medal,	0 16 0	
W. Swithenbank, Liverpool,	Chemistry,	Silver Medal,	0 16 0	
Thomas H. Lewis, Crewe,	Materia Medica,	Silver Medal,	0 16 0	
Thomas H. Lewis, Crewe,	Botany,	Silver Medal,	0 16 0	
Edward Kitchin, Doncaster,	} Cattle Pathology,	{ Silver Medal,	0 16 0	
John J. Phillips, South Wales,		{ Silver Medal,	0 16 0	
Thomas H. Lewis, Crewe,	} Anatomy,	{ Silver Medal,	0 16 0	
Edward Kitchin, Doncaster,		{ Silver Medal,	0 16 0	
GLASGOW VETERINARY COLLEGE.				
John Borry, Kilkenny,	Horse Pathology,	Silver Medal,	0 16 0	
William Houston, Paisley,	Cattle Pathology,	Silver Medal,	0 16 0	
D. H. Currie, Arran,	} Physiology and Histology,	{ Silver Medal,	0 16 0	
Clayton Kingston, Bay City, U.S.,		{ Silver Medal,	0 16 0	
Amos Wilkinson, Manchester,	Practical Examination of Horses,		Silver Medal,	0 16 0
William Houston, Paisley,	{ Practical Examination of Cattle and Sheep,		{ Silver Medal,	0 16 0
John Hamilton, Blantyre,	Anatomy,	Silver Medal,	0 16 0	
John Hamilton, Blantyre,	General Pathology,	Silver Medal,	0 16 0	
SUMMER SESSION, 1877.				
Richard Hughes, Llandudno,	Chemistry,	Silver Medal,	0 16 0	
John Hamilton, Blantyre,	Botany,	Silver Medal,	0 16 0	
Richard Hughes, Llandudno,	Materia Medica,	Silver Medal,	0 16 0	
			£35 8 0	

## VII.—AGRICULTURAL CLASS, EDINBURGH UNIVERSITY.

1. John Craig, Perthshire, . . . . .	£6 0 0
2. John E. Nonnen, Sweden, . . . . .	4 0 0
	£10 0 0

## ABSTRACT OF PREMIUMS.

1. ESSAYS AND REPORTS—Money Premiums and Medals, . . . . .	£91 18 0
2. EDINBURGH SHOW, . . . . .	3 15 0
3. DUMFRIES SHOW, 1878—Money Premiums and Medals, . . . . .	2458 18 0
4. DISTRICT SHOWS:—	
Stock, . . . . .	£498 6 6
Special Grants, . . . . .	136 0 0
Local Societies—Medals in aid of Premiums given by (149), . . . . .	78 4 6
Ploughing Associations—Medals to (210), . . . . .	63 0 0
	775 11 0
5. COTTAGES AND GARDENS—Money Premiums and 42 Minor Silver Medals, £42, 12s.; 17 Medium Silver Medals, £8, 18s. 6d. . . . .	51 10 6
6. VETERINARY DEPARTMENT—Medals to Students, . . . . .	35 8 0
7. AGRICULTURAL CHAIR, EDINBURGH UNIVERSITY—Prizes to Class, . . . . .	10 0 0
	£3427 0 6

**STATE OF THE FUNDS**  
OF  
**THE HIGHLAND AND AGRICULTURAL SOCIETY,**  
**At 30th NOVEMBER 1878.**

**I. BONDS—**

Heritable Bonds,	£16,279	16	0
Debenture Bonds by Clyde Navigation Trustees,	3,000	0	0
Railway Debenture Bonds,	4,950	0	0
	£24,229	16	0

**II. DEBENTURE STOCK—**

£3,000 North British Railway Co., 4½ per cent., at £102, 5s.,	£3,067	10	0
£1,000 London and North-Western Railway Co., 4 per cent., at £104, 10s.,	1,045	0	0
			4,112 10 0

**III. BANK STOCKS—**

£8,407, 7s. 8d. Royal Bank of Scotland, at £198,	£12,686	12	4
2,218, 6s. 5d. Bank of England, at £252,	5,590	3	4
2,000, 0s. 0d. British Linen Company Bank, at £275,	5,500	0	0
1,250, 0s. 0d. National Bank of Scotland, at £271,	3,387	10	0
1,062, 10s. 0d. Commercial Bank of Scot- land, at £259½,	2,757	3	9
1,091, 13s. 4d. Bank of Scotland, at £285,	3,111	5	0
			33,032 14 5
£14,029, 17s. 5d.			

*Note.*—The original cost of these Bank Stocks was £22,817, 18s. 6d.,  
showing a profit, at present prices, of £10,714, 15s. 11d.

IV. TEN SHARES (£500) OF THE BRITISH FISHERY SOCIETY, valued at	200	0	0
V. ARREARS OF MEMBERS' SUBSCRIPTIONS, CONSIDERED RECOVERABLE,	71	6	0
VII. DEPOSITS WITH CITY OF GLASGOW BANK (in liquidation), of dates 25th April and 16th May 1878, .	897	2	3
VII. BALANCE ON CURRENT ACCOUNT WITH ROYAL BANK, .	37	12	5

AMOUNT OF FUNDS, . £62,581 1 1

**VIII. BUILDING FUND—**

1. Estimated Value of Buildings, No. 3 George IV. Bridge, .	£3,100	0	0
2. Sums Invested in Debenture Bonds—			
North British Railway Company, .	£1,000	0	0
Clyde Navigation Trustees, .	1,000	0	0
			2,000 0 0
3. Deposit with Royal Bank, of date 11th November 1878,			287 5 7

AMOUNT OF BUILDING FUND, . £5,387 5 7

**IX. FURNITURE—**

Estimated Value of Furniture, Paintings, Books, &c.,	£1,000	0	0
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W. S. WALKER, *Treasurer.*

ANTHONY MURRAY, *Chairman of Finance Committee.*

MACKENZIE & SMITH, C.A., *Auditors.*

EDINBURGH, 3d January 1879.

# **ABSTRACT of the ACCOUNTS of the HIGHLAND and CHARGE.**

1. BALANCE due by Royal Bank of Scotland on Account Current at 30th November 1877,		£941 13 10
2. DEPOSIT with Royal Bank of Scotland, of date 8th November 1877,		500 0 0
3. DEPOSIT with Royal Bank of Scotland in name of the Building Fund, of date 10th November 1877,		202 8 6
4. ARREARS of Annual Subscriptions at 30th November 1877, as in last year's Abstract,	£52 2 0	
Whereof due by Members who have since com- pounded for life, and thereby ex- tinguished,	£4 13 6	
Sum ordered to be written off as irrecoverable,	22 17 6	
	<hr/>	27 11 0
5. ARREARS from Edinburgh Show, 1877,		24 11 0
6. INCOME FROM INVESTMENTS—		1 18 0
(1.) Interest on Heritable Bonds—		
On £1,300 at 4½ per cent., £58, 10s., less tax £1, 0s. 6d.,	£57 9 6	
On £14,979, 16s. at 4 per cent., £599, 3s. 8d., less tax £10, 9s. 6.,	588 14 2	
£16,279, 16s.	£646 3 8	
(2.) Interest on Debenture Bonds—		
On £7,950 at 4 per cent., £318, less tax, £5, 12s. 8d.,	312 7 4	
(3.) Interest on Debenture Stock—		
On £3000, at 4½ per cent., £127, 10s., less tax £2, 5s. 2d.,	£125 4 10	
On £1,000 at 4 per cent., less tax 11s. 8d.,	39 8 4	
	<hr/>	164 13 2
(4.) Interest on Deposit of £500 with Royal Bank,		14 14 8
(5.) Interest on Bank Account,		1 17 6
	<hr/>	£1,139 16 4
(6.) Dividends on Bank Stocks—		
On £6,102 7 8 Royal Bank of Scotland,	£579 14 8	
305 0 0 Do. for half year,	14 9 8	
2,218 6 5 Bank of England,	210 15 8	
2,000 0 0 British Linen Co. Bank,	280 0 0	
1,250 0 0 National Bank of Scotland,	187 10 0	
1,062 10 0 Commercial Bank of Scotland,	159 7 6	
1,071 13 4 Bank of Scotland,	152 16 8	
	<hr/>	1,584 14 2
£14,029 17 5		
(7.) Dividend on £500 Stock of the British Fishery Society,	0 0 0	
Note.—No dividend has been received on this Stock for the last five years.		2,724 10 6
7. INCOME from Building Fund—		
Interest on £1000 North British Railway Company Debenture Bond, at 4 per cent., £40, less tax 14s. 2d.	£39 5 10	
Interest on £1000 Clyde Navigation Trustees' Bond, at 4 per cent., £40, less tax 14s. 2d.,	39 5 10	
Interest on Deposits with Royal Bank,	6 5 5	
	<hr/>	84 17 1
8. SUBSCRIPTIONS—		
Annual Subscriptions,	£882 8 0	
Life Subscriptions,	1,088 11 0	
	<hr/>	1,920 19 0
9. SUBSCRIPTIONS to Chemical Department,		38 0 0
10. BALANCE of Receipts from Dumfries Show (exclusive of Premiums paid), as shown in separate States,		2,759 7 6
SUM OF CHARGE,		£9,198 5 5

**AGRICULTURAL SOCIETY of SCOTLAND for the YEAR 1877-78.**

## DISCHARGE

<b>1. ESTABLISHMENT EXPENSES, viz.—</b>			
Salary to Secretary for year to Martinmas 1878, . . . . .	£850	0	0
Salary to Clerk, £300; and Junior Clerk, £150, for year to 1st October 1878, . . . . .	450	0	0
Messenger, £72; and allowance to Widow of former Messenger, £21, . . . . .	93	0	0
	<hr/>		
Feu-Duty, £28; Water Duty, £2, 3s. 4d.; Taxes, £33, 7s., . . . . .	£1,393	0	0
Coals, £10, 8s. 6d.; Gas, £4, 14s. 10d.; Insurance, £3, 17s. 6d., . . . . .	63	10	4
Repairs and Furnishings, . . . . .	18	15	10
	38	10	10
	<hr/>		
	£1,513	17	0
<b>2. FEE to Auditor of Accounts, for year to 30th November 1878, . . . . .</b>	50	0	0
<b>3. FEE to Practical Engineer, for year to 30th June 1878, . . . . .</b>	20	0	0
<b>4. AGRICULTURAL CHAIR—</b>			
Grant to Professor, £150; and Prizes to Class, £10, . . . . .	160	0	0
<b>5. CHEMISTRY DEPARTMENT—</b>			
Salary to Chemist, for year to Martinmas 1878, . . . . .	£300	0	0
Expenses connected with Experimental Stations, . . . . .	390	12	4
	<hr/>		
	690	12	4
<b>6. VETERINARY DEPARTMENT—</b>			
Allowance to Professor Williams, £26, 5s.; Medals to Students, £35, 8s.; Expenses of Mr Clay, Kerchesters, attending the Deputation to London, on Cattle Diseases Bill, £10, 18s., . . . . .	72	11	0
<b>7 FEES to Agricultural and Veterinary Examiners, £23, 2s.; and Expenses, £9, 16s., . . . . .</b>	32	18	0
<b>8. BURSARIES, . . . . .</b>	70	0	0
<b>9. SOCIETY'S TRANSACTIONS—Printing, Binding, and Delivering, . . . . .</b>	367	2	6
<b>10. ORDINARY Printing and Lithographing, £56, 14s.; Advertising, £24, 6s. 3d.; Stationery, £40, 4s.; Stamps, £52, 10s.; Bank Charges, Telegrams, &amp;c., £8, 4s. 1d., . . . . .</b>	181	18	4
<b>11. SUBSCRIPTIONS to PUBLIC SOCIETIES—Meteorological Society, £20; Society for Prevention of Cruelty to Animals, £5, . . . . .</b>	25	0	0
<b>12. MISCELLANEOUS PAYMENTS—Reporting General Meeting, £3, 3s.; Handsels, £1, 4s. 6d.; Report on Property occupied by Lawson Seed &amp; Nursery Co., £2, 2s.; Re-striking Medals, £1, 1s. 6d., . . . . .</b>	7	11	0
<b>13. PAYMENTS in connection with former Shows—Aberdeen, 1876, Arbitrator as to price of forage, £3, 3s.; Edinburgh, 1877, Water Supply, £10, 10s., . . . . .</b>	13	13	0
<b>14. PREMIUMS—</b>			
Edinburgh Show, 1877, . . . . .	£297	15	0
Dumfries Show, 1878, . . . . .	2,157	8	0
District Competitions, 1877, . . . . .	729	15	0
Ploughing Competitions, 1877-78, . . . . .	62	14	0
Vote to Edinburgh Christmas Club, 1877, £50; Glasgow Agricultural Society, 1877, £50, . . . . .	100	0	0
Essays and Reports, . . . . .	106	15	0
	<hr/>		
	3,454	7	0
<b>15. EXPENSES connected with Agricultural Congress at Paris, Secretary's Expenses, £49, 14s.; Professor Wilson's Expenses, £48, 15s., . . . . .</b>	£98	9	0
Report on Present State of Agriculture in Scotland, . . . . .	£236	9	6
Printing, Binding, and Photographs, . . . . .	205	2	0
Fees for Reports and assistance compiling, . . . . .	441	11	6
	<hr/>		
	540	0	6
<b>16. ARREARS of Subscriptions to be struck off as irrecoverable, . . . . .</b>	34	8	6
<b>17. ARREARS of Subscriptions considered recoverable, . . . . .</b>	71	6	0
<b>18. CAPITAL Sum invested in £305, Royal Bank Stock, . . . . .</b>	671	0	0
<b>19. DEPOSITED with City of Glasgow Bank (in liquidation), on 25th April and 16th May 1878, . . . . .</b>	897	2	3
<b>20. DEPOSITED with Royal Bank in name of Building Fund, on 11th November 1878, . . . . .</b>	287	5	7
<b>21. BALANCE on Current Account with Royal Bank, at 30th November 1878, . . . . .</b>	37	12	5
	<hr/>		
<b>SUM OF DISCHARGE, . . . . .</b>	£9,198	5	5

W. S. WALKER, *Treasurer.*  
 ANTHONY MURRAY, *Chairman of Finance Committee.*  
 MACKENZIE & SMITH, C.A., *Auditors.*

EDINBURGH 3d January 1879



## ABSTRACT OF ACCOUNTS—

## CHARGE.

## 1. LOCAL SUBSCRIPTIONS—

1. Dumfriesshire—Voluntary Assessment on Proprietors,	£897	2	3
2. Stewartry of Kirkcudbright      do.              do.      .	400	0	0
3. Wigtownshire,                      do.              do.      .	300	0	0
4. Town of Dumfries,      .      .      .      .      .	50	0	0
	£1647	2	3

## 2. AMOUNT COLLECTED DURING SHOW—

Drawn at Gates,              .      .      .      .      .      .      .	£2,781	7	0
Drawn at Horse Ring and Cattle Parade.	252	17	6
Catalogues and Awards sold,      .      .      .      .      .	270	18	6
Drawn at Gentlemen's Room and Cloak Room,              .      .      .      .      .      .      .	3	10	6
			<hr/> 3,308 8 6
3. RENT OF STALLS,              .      .      .      .      .      .      .	1,745	8	6
4. RENT OF REFRESHMENT BOOTHS,      .      .      .      .      .      .      .	216	0	0
5. MANURE IN SHOW YARD SOLD,      .      .      .      .      .      .      .	12	10	0
6. FORFEITED DEPOSITS FOR RETURN OF HORSES,      .      .      .      .      .      .      .	14	0	0
7. INTEREST FROM ROYAL BANK,              .      .      .      .      .      .      .	28	3	3
			<hr/> £6,971 12 6

NOTE.—From the above Balance,      .      .      .      .      .      .      .	£601	19	6
There must be deducted the Premiums un- drawn at 30th November, amounting to	301	10	0
			<hr/>
Making the probable Surplus,	£300	9	6

**DUMFRIES SHOW, 1878.****DISCHARGE.****1 SHOW YARD EXPENDITURE—**

Fitting up, £2455 ; Tenant of Field, £105 ; Portable Crane, £25 ; Flags and Blue Cord, £4, 10s. ; Black Boards, £2, 3s. ; Miscellaneous, £3, 0s. 2d.,		£2,595	13	2
2. FORAGE AND BEDDING FOR STOCK, . . . . .		286	2	9
3. POLICE FORCE, . . . . .		57	12	0
4. TRAVELLING EXPENSES of Judges, &c., . . . . .		203	9	1
5. HOTEL and other Bills for Directors, Judges, Secretary, &c.,		361	14	9
6. TICKETS for President's Dinner for do., . . . . .		80	17	0
7. MUSIC in Show-Yard, &c., . . . . .		45	17	8
8. PRINTING Catalogues and Awards, and Lithographing Tickets, Badges, &c., . . . . .		268	10	0
9. ADVERTISING and Posting Bills, . . . . .		73	13	11
10. ALLOWANCE to Local Secretary, . . . . .		21	0	0
11. ALLOWANCE to Practical Engineer, and Travelling Expenses,		26	15	6
12. EXPENSE attending Trials of Implements, . . . . .		12	10	0
13. ALLOWANCE to Local Veterinary Inspector, . . . . .		10	0	0
14. ASSISTANTS, Porter, and Attendants, . . . . .		133	3	0
15. POSTAGE and Receipt Stamps, . . . . .		27	10	0
16. MISCELLANEOUS OUTLAYS — Carriages, Telegrams, Bank Charges, &c., . . . . .		7	16	2
AMOUNT OF GENERAL EXPENSES, . . . . .		4,212	5	0
17. PREMIUMS drawn at 30th November 1878, . . . . .		2,157	8	0
		£6,369	13	0
BALANCE OF RECEIPTS, . . . . .		601	19	6
		£6,971	12	6

W. S. WALKER, *Treasurer.*

ANTHONY MURRAY, *Chairman of Finance Committee.*

MACKENZIE & SMITH, C.A., *Auditors.*

EDINBURGH, 3d January 1879.

# **ABSTRACT of the ACCOUNTS of the ARGYLL NAVAL FUND for 1877-78.**

## **CHARGE.**

### **1. FUNDS as at 30th November 1877—**

Debenture Bond of Caledonian Railway Company, .	£1,000	0	0
Debenture Stock of the North British Railway Company, .	1,200	0	0
Funded Debt of the Clyde Navigation Trust, £3000, purchased at 99 per cent., . . . . .	2,970	0	0
	<hr/>		
	£5,170	0	0
BALANCE in Bank at 30th November 1877, . . . . .	604	4	6
	<hr/>		
	£5,774	4	6

### **2. INCOME received—**

On £1000 Caledonian Railway Company Debenture Bond at 4 per cent., £40, less Tax, 14s. 2d. .	£39	5	10
On £1200 North British Railway Company Debenture Stock at 4½ per cent., £51, less tax, 18s. 1d., . . . . .	50	1	11
On £3000 Funded Debt of Clyde Navigation Trust at 4 per cent., £120, less tax, £2, 2s. 6d. . . . .	117	17	6
	<hr/>		
	£207	5	3
On £305 Royal Bank Stock for half-year to 4th July 1878, . . . . .	14	9	9
	<hr/>		
	£221	15	0
Deduct Interest on Bank Account, . . . . .	2	19	8
	<hr/>		
	218	15	4
	<hr/>		
SUM OF CHARGE, . . . . .	£5,992	19	10

## **DISCHARGE.**

### **1. ALLOWANCES to the two following Recipients—**

R. A. J. Montgomerie, sixth year, . . . . .	£40	0	0
Norman Godfrey Macalister, fourth year, . . . . .	40	0	0
	<hr/>		
	£80	0	0

### **2. FUNDS as at 30th November 1878—**

DEBENTURE BOND by Caledonian Railway Company, . . . . .	£1,000	0	0
DEBENTURE STOCK of the North British Railway Company, . . . . .	1,200	0	0
FUNDED DEBT of the Clyde Navigation Trust, £3000, purchased at . . . . .	2,970	0	0
STOCK of the Royal Bank, £305, purchased at . . . . .	671	0	0
	<hr/>		
	£5,841	0	0
BALANCE in Bank at 30th November 1878 . . . . .	71	19	10
	<hr/>		
	5,912	19	10
	<hr/>		
SUM OF DISCHARGE, . . . . .	£5,992	19	10

W. S. WALKER, *Treasurer.*

ANTHONY MURRAY, *Chairman of Finance Committee.*

MACKENZIE & SMITH, C.A., *Auditors.*

EDINBURGH, 3d January 1879.

# APPENDIX (B).

## PREMIUMS

OFFERED BY

### THE HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND IN 1879.

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## GENERAL NOTICE.

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THE HIGHLAND SOCIETY was instituted in the year 1784, and incorporated by Royal Charter in 1787. Its operation was at first limited to matters connected with the improvement of the Highlands of Scotland; but the supervision of certain departments, proper to that part of the country, having been subsequently committed to special Boards of Management, several of the earlier objects contemplated by the Society were abandoned, while the progress of agriculture led to the adoption of others of a more general character. The exertions of the Society were thus early extended to the whole of Scotland, and have, for the greater part of a century, been directed to the promotion of the science and practice of agriculture in all its branches.

In accordance with this more enlarged sphere of action, the original title of the Society was altered, under a Royal Charter, in 1834, to THE HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND.

The leading purposes of the Institution are set forth in the following pages, where it will be found that Premiums are offered for Reports on almost every subject connected with the cultivation of the soil; the rearing and feeding of stock; the management of the dairy; the improvement of agricultural machinery and implements; the growth of timber; the extension of cottage accommodation; the application of chemical science; and the dissemination of veterinary information.

Among the more important measures which have been effected by the Society are—

1. Agricultural Meetings and General Shows of Stock, Implements, &c., held in the principal towns of Scotland, at which exhibitors from all parts of the United Kingdom are allowed to compete.
2. A system of District Shows instituted for the purpose of improving the breeds of Stock most suitable for different parts of the country, and of aiding and directing the efforts of Local Agricultural Associations.
3. The encouragement of Agricultural Education, under powers conferred by a supplementary Royal Charter, granted in 1856, and authorising "The COUNCIL of the HIGHLAND AND AGRICULTURAL SOCIETY ON EDUCATION" to grant Diplomas to Students of Agriculture; and by the establishment of Bursaries.
4. The establishment of Agricultural Stations for the purpose of promoting the application of science to agriculture, and the appointment of a chemist to superintend all experiments conducted at these Stations, and prepare a Report of the same to be published in the Transactions.
5. The advancement of the Veterinary Art, by conferring Certificates on Students who have passed through a prescribed curriculum, and who are found, by public examination, qualified to practise.
6. The appointment of a Board of Examiners, and the granting of First and Second Class Certificates in Forestry.
7. The annual publication of the Transactions, which comprehend the Prize-Reports, and reports of experiments, also an abstract of the business at Board and General Meetings, and other communications.
8. The management of a fund left by John, 5th Duke of Argyll (the original President of the Society), to assist young natives of the Highlands who enter Her Majesty's Navy.

## CONSTITUTION AND MANAGEMENT.

The general business of THE HIGHLAND AND AGRICULTURAL SOCIETY is conducted under the sanction and control of a Royal Charter, which authorises the enactment of Bye-Laws. Business connected with Agricultural Education is conducted under the authority of a supplementary Royal Charter, also authorising the enactment of Bye-Laws.

The Office-Bearers consist of a President, Four Vice-Presidents, Thirty Ordinary and Ten Extraordinary Directors, a Treasurer, an Honorary and an Acting Secretary, an Auditor, and other Officers.

The Directors meet on the first Wednesday of each month from November to June. The proceedings of the Directors are reported to General Meetings of the Society, held in January and in June or July.

With reference to motions at General Meetings, Bye-Law No. 7 provides—“That at General Meetings of the Society no motion or proposal (except of mere form or courtesy) shall be submitted or entertained for immediate decision unless notice thereof has been given a week previously to the Board of Directors, without prejudice, however, to the competency of making such motion or proposal to the effect of its being remitted to the Directors for consideration, and thereafter being disposed of at a future General Meeting.”

The Council on Education, under the Supplementary Charter, consists of Sixteen Members—Nine nominated by the Charter, and Seven elected by the Society. The Board of Examiners consists of Ten Members.

Candidates for admission to the Society must be proposed by a Member, and are elected at the half-yearly General Meetings in January and June or July. The ordinary subscription is £1, 3s. 6d. annually, which may be redeemed by one payment, varying, according to the number of previous annual payments, from £12, 12s. to £7, 1s. Proprietors farming the whole of their own lands, whose assessments on the Valuation Roll does not exceed £500 per annum, and all Tenant-Farmers, Office-Bearers of Local Agricultural Associations, Resident Agricultural Factors, Land Stewards, Foresters, Agricultural Implement Makers, and Veterinary Surgeons, none of them being also owners of land to an extent exceeding £500 per annum, are admitted on a subscription of 10s. annually, which may be redeemed by one payment, varying, according to the number of previous annual payments, from £5, 6s. to £3. According to the Charter, a Member who homologates his Election by paying his first subscription cannot retire until he has paid in annual subscriptions, or otherwise, an amount equivalent to a life composition. Members having candidates to propose are requested to state whether the candidate should be on the £1, 3s. 6d. or 10s. list.

Members of the Society receive the Transactions free on application to the Secretary, and are entitled to apply for District Premiums—to report Ploughing Matches for the Medal—to attend Shows free of charge, and to exhibit Stock at reduced rates.

Orders, payable at the Royal Bank of Scotland, Edinburgh, are issued by the Directors, in name of the parties in whose favour Premiums have been awarded.

All communications must be addressed to “FLETCHER NORTON MENZIES, Esq., Secretary of the Highland and Agricultural Society of Scotland, No. 3 GEORGE IV. BRIDGE, EDINBURGH.”

## ESTABLISHMENT FOR 1879.

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The President, Vice-Presidents, Treasurer, and Honorary Secretary, are members *ex officio* of all Committees.

## AGRICULTURAL EDUCATION.

### CERTIFICATES AND DIPLOMA IN AGRICULTURE.

#### COUNCIL ON EDUCATION.

By a Supplementary Charter under the Great Seal, granted in 1856, the Society is empowered to grant Diplomas.

#### *Members of Council named by Charter.*

The PRESIDENT of the HIGHLAND AND AGRICULTURAL SOCIETY—*President.*

The LORD JUSTICE-GENERAL—*Vice-President.*

The LORD ADVOCATE.

The DEAN OF FACULTY.

The PROFESSOR OF AGRICULTURE.

The PROFESSOR OF ANATOMY.

The PROFESSOR OF BOTANY.

The PROFESSOR OF CHEMISTRY.

The PROFESSOR OF NATURAL HISTORY.

#### *Members of Council nominated by Society.*

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WILLIAM S. WALKER of Bowland, C.B.

JOHN WILSON, Wellnage.

THOMAS MYLNE, Niddrie Mains.

ROBERT DUNDAS of Arniston.

JOHN MUNRO, Fairnington.

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1. *Science and Practice of Agriculture.*—Professor WILSON ; JOHN WILSON, Wellnage, Dunse ; THOMAS MYLNE, Niddrie Mains, Liberton ; and JOHN MUNRO, Fairnington, Kelso.
2. *Botany.*—Professor BALFOUR.
3. *Chemistry.*—Dr A. P. AITKEN.
4. *Natural History.*—Professor Sir C. WYVILLE THOMSON.
5. *Veterinary Science.*—Professor WILLIAMS.
6. *Field Engineering.*—DAVID STEVENSON, M. Inst. C.E.
7. *Book-keeping.*—KENNETH MACKENZIE, C.A., and JOHN TURNBULL SMITH, C.A.

#### *Standing Acting Committee.*

The LORD JUSTICE-GENERAL—*Convener.*

The PROFESSOR OF AGRICULTURE.

The PROFESSOR OF BOTANY

The PROFESSOR OF CHEMISTRY.

THOMAS MYLNE, Niddrie Mains.

JOHN MUNRO, Fairnington.

#### BYE-LAWS.

I. That, in terms of the Charter, the Society shall nominate seven members to act on the Council on Education.

II. That the Council shall appoint a Board of Examiners on the following subjects :—Science and Practice of Agriculture ; Botany ; Chemistry ; Natural History ; Veterinary Science ; Field Engineering ; and Book-keeping.

III. That the examinations shall be both written and oral, that the value of the answers shall be determined by numbers, and that the oral examinations shall be public.

IV. That there shall be three Examinations,\* to be styled respectively the "Second Class Certificate Examination," the "First Class Certificate Examination," and the "Diploma Examination."

V. That to pass the "Second Class Certificate Examination," a candi-

\* It has been resolved that, under ordinary circumstances, the Examinations shall be held annually in the beginning of April, candidates being required to lodge intimation before the 15th of March.

date must be acquainted with the science and practice of agriculture, elementary chemistry, field engineering, and book-keeping; and that a certificate in the following terms, bearing the corporate seal and arms of the Society, signed by the President or Vice-President of the Council on Education, the Examiners, and by the Secretary, shall be granted to candidates passing this examination :—

“These are to certify that on the A. B. was examined, and  
has been found to possess a knowledge of the science and practice of agriculture, elementary chemistry, field engineering, and book-keeping.”

VI. That to pass the “First Class Certificate Examination” a candidate must be acquainted with the science and practice of agriculture, botany, chemistry, natural history, veterinary science, field engineering, and book-keeping; and that a certificate in the following terms, bearing the corporate seal and arms of the Society, signed by the President or Vice-President of the Council on Education, the Examiners, and by the Secretary, shall be granted to candidates passing this examination :—

“These are to certify that on the A. B. was examined, and  
has been found to possess a knowledge of the science and practice of agriculture, botany, chemistry, natural history, veterinary science, field engineering, and book-keeping.”

VII. That to pass the “Diploma Examination” a candidate must possess a *thorough knowledge* of the science and practice of agriculture, botany, chemistry, natural history, veterinary science, field engineering, and book-keeping; and that a diploma in the following terms, bearing the corporate seal and arms of the Society, and signed by the President or Vice-President of the Council on Education, the Examiners, and by the Secretary, shall be granted to candidates passing this examination :—

“These are to certify that, on the A. B. was examined,  
and has been found to be proficient in the science and practice of agriculture, botany, chemistry, natural history, veterinary science, field engineering, and book-keeping.”

VIII. That each successful candidate for the Society's Agricultural Diploma shall thereby become eligible to be elected a free life member of the Society.

IX. That the Society shall grant annually ten bursaries of £20 each; and five of £10 each, to be competed for by pupils of schools to be approved of by the Directors, which include or are willing to introduce the teaching of chemistry, and the following branches of natural science—physical geography, botany, and geology, into their curriculum.

X. That the £20 bursaries shall be tenable for one year at the University of Edinburgh, for the purpose of enabling the holders to take the classes necessary to qualify for the Society's Certificate or Diploma; and the £10 bursaries to be tenable for the same period to enable the holders to receive another year's preparation at the schools.

XI. That the bursaries shall be determined by examination held in Edinburgh by the Society's Examiners.

XII. That a Standing Acting Committee of the Council on Agricultural Education shall be appointed by the Directors.

## SYLLABUS OF EXAMINATION FOR CERTIFICATES AND DIPLOMA.

### I.—SCIENCE AND PRACTICE OF AGRICULTURE.

1. Geological strata—surface geology—formation of soils—their classification—chemical and physical characters and composition—suitability for cultivation. 2. The principle of rotations—rotations suitable for different

soils—systems of farming. 3. The composition of (a) manures—farmyard and artificial—period and mode of application. The composition of (b) feeding substances—their suitability for different classes of farm stock—considerations affecting their use. 4. “How crops grow”—our farm crops—their cultivation—diseases—insect injuries and remedies—their chemical composition. The formation and management of plantations. 5. The principles on which drainage, irrigation, and warping operations should be based and carried out. The application of lime—marl—clay, &c. 6. Meteorology, or the laws of climate as affecting plant life—the influence of light and heat on cultivation—of absorption and retention of heat and moisture—of porosity and capillarity in soils. 8. The breeding, rearing, feeding, and general treatment of farm stock—the different breeds of cattle and sheep—their characteristics—the districts where they are generally met with. 9. The machines and implements used in farming—their uses—and the principal points to be attended to in their construction. The “prime movers,” or sources of power used in agriculture—man—horse—wind—water—steam,—their relative values and advantages. *Text-books*—Morton’s “Cyclopedia of Agriculture,” Blackie & Son; “Our Farm Crops,” Blackie & Son; “How Crops Grow,” Macmillan & Co.; Roscoe’s “Elementary Chemistry,” Macmillan & Co.; Lindley’s, Henfrey’s, or Balfour’s “Botany;” Page’s “Geological Text-Book,” Blackwood & Sons.

## II.—BOTANY.

1. Nutritive Organs of Plants—root, stem, leaves. Functions of roots. Various kinds of stems, with examples. Use of the stem. Structure of leaves. Different kinds of leaves. Arrangement and functions of leaves. 2. Reproductive Organs—Flower and its parts. Arrangements of the whorls of the flower—calyx, corolla, stamens, pistil. Ovule. Mature pistil or fruit. Pruning and grafting. Seed. Young plant or embryo. Sprouting of the seed, or germination. 3. General Principles of Classification—meaning of the terms Class, Order, Genus, Species. Illustrations of natural orders taken from plants used in agriculture, such as grain-crops, grasses, clovers, vetches, turnips, mangold-wurzel, pease, beans, &c. Practical Examination in fresh Specimens and Models; some of the latter may be seen in the Museum, at the Royal Botanic Garden, which is open daily to the public, free. *Text-book*—Balfour’s “Elements of Botany,” A. & C. Black, 1876; price 3s. 6d.

## III.—CHEMISTRY.

The general principles of chemical combination. The chemistry of the more commonly occurring elements, and their more important compounds. The chemical processes concerned in agriculture generally. The changes which take place in the germination, growth, and maturation of plants, in the weathering and manuring of soils, &c. The composition and chemical character of the common mineral manures. *Text-books*—Roscoe’s “Lessons in Elementary Chemistry,” Macmillan & Co., London; price 4s. 6d. Anderson’s “Elements of Agricultural Chemistry,” A. & C. Black, Edinburgh; price 6s. 6d. Johnson’s “How Crops Grow,” Macmillan & Co., London.

## IV.—NATURAL HISTORY.

### 1. ZOOLOGY.

1. The Primary Divisions of the Animal Kingdom, with examples of each. 2. The Vertebrate Kingdom. The peculiarities and functions of the alimentary canal, distinguishing the Ruminants. 3. The Orders—Hymenoptera, Diptera, and Coleoptera—with examples of insects injurious to farm crops belonging to each of the Orders—the preservation of birds which prey upon these insects, drawing a distinction between those which are beneficial and those which are destructive to crops. *Text-book*—Nicholson’s “Introductory Text-Book of Zoology,” William Blackwood & Sons, Edinburgh and London.

## 2. GEOLOGY.

4. The various strata forming the earth's crust in their order of deposition. 5. Their influences on the surface soils of the country. 6. The meaning and application of Disintegration, Drift, Alluvium, Dip, Strike, Fault. Page's "Introductory Text-Book of Geology;" and Lyell's "Students' Elements of Geology."

## V.—VETERINARY SCIENCE.

1. Anatomy of the digestive organs of horse and ox, describing their structural differences. 2. The process of digestion in the above animals, and food most proper for each in quantity and quality. 3. The management of stock before, at, and after parturition. The time of utero-gestation in the domesticated animals. 4. The general principles to be followed in the treatment of very acute disease, before assistance of the veterinary surgeon can be procured.

## VI.—FIELD ENGINEERING.

1. Land-Surveying with the Chain. 2. Mensuration of Areas of Land, in imperial and Scotch acres, from a Chain Survey or from a Plan. 3. Levelling with the ordinary Levelling Instrument and Staff, and calculating levels and gradients. *Text-books*—Any one of the following:—Butler Williams' "Practical Geodesy," J. W. Parker, London; price 8s. 6d.; pages 1 to 19, 30 to 33, 56 to 59, 118 to 129. "Cassell on Land-Surveying," Cassell, Petter & Galpin, London; or "Bruff on Land-Surveying," Simpkin & Marshall, London; the parts which relate to chain-surveying and ordinary levelling only.

## VII.—BOOK-KEEPING.

1. Questions in practice and proportion. 2. Book-keeping—Describe books to be kept; give examples—taking of stock. *Text-book*—Stephen's "Practical System of Farm Book-keeping," Wm. Blackwood & Sons, Edinburgh; price 2s. 6d.

## EXAMINATION FOR BURSARIES.

Candidates are examined in the Elements of Botany, Chemistry, Physical Geography, and Geology. *Text-books*—Balfour's "Elements of Botany;" Roscoe's "Lessons in Elementary Chemistry;" Page's "Introductory Text-Book of Geology;" and Geikie's "Primer of Physical Geography;" Lyell's "Students' Elements of Geology."

It has been resolved that, under ordinary circumstances, the Examinations shall be held annually in the end of October, and Candidates must enter their names with the Secretary before the 10th of that month, and produce the necessary certificates from the teachers of the schools they have attended.

The bursaries are open to candidates not less than fourteen years of age.

## VETERINARY DEPARTMENT.

[*Note*.—An arrangement, as given at p. 15, having been made with the Royal College of Veterinary Surgeons that the holder of the Society's Veterinary Certificates are to be admitted Members of the Royal College, the Society is to cease holding examinations. But, not to disappoint those students who may have entered the teaching schools with the view of taking the Society's Certificate, the examinations will be continued till April 1881, in accordance with the former rules, it being clearly understood that unless fifteen students enter their names no examination will be held.]



In the year 1823 the Highland and Agricultural Society instituted lectures in Veterinary Science and Medicine, and arranged with the late Professor Dick to conduct the course.

In 1824 Examinations were commenced and Certificates granted, but only to Students who attended these lectures. Up to the present time 1144 certificates have been issued.

The Examinations are open to the Students of any Veterinary College established under Her Majesty's sign-manual.

In 1877 it was resolved that Students entering a Veterinary College after 1st January 1877, be subject to the following regulations :—

1. That there be two Examinations yearly, viz.—the First or Preliminary, and the Second or Final, both in April.

2. Students before entering their names for the First or Preliminary Examination, which embraces Botany, Chemistry, and Anatomy, must have attended two Winter Sessions and one Summer Session at a Veterinary College established under Her Majesty's sign-manual, and they must produce certificates from the Professor of each subject.

3. Students who have passed the First Examination, before entering their names for the Final Examination, which embraces Practice and Clinique, Physiology including Histology, Materia Medica, Cattle Pathology and Horse Pathology, must have attended three Winter Sessions and two Summer Sessions at a Veterinary College established under Her Majesty's sign-manual, and they must produce certificates from the Professor of each subject.

4. Students must pass the Practical and Clinical Examination before they can be examined on the other subjects enumerated in No. 3.

5. Students failing to pass either of the Examinations are required to attend a Veterinary College during one Summer and one Winter Session before being allowed to present themselves for Re-examination.

6. Members of the Medical Profession, or of any Colonial or Foreign Veterinary School or College, and others whose cases have been all specially considered and allowed by the Directors, may present themselves for Examination after attending one Winter Session at a Veterinary College in this country, and will receive the Certificate on passing one general Examination embracing all the subjects of the two Examinations.

In 1874 the Society resolved to vote annually Eight Silver Medals to each of the two Veterinary Colleges in Edinburgh, and to the one in Glasgow, for Class Competition ; and two Medium Gold Medals, open to all the Students who come up to the Final Examination for the Society's veterinary certificate for best general and best practical Clinical Examinations.

The examinations are conducted by leading members of the Medical Faculty and of the Veterinary Profession ; and a Certificate in the following terms, bearing the corporate seal and arms of the Society, and signed by the Examiners, is granted to those Students who pass the Final Examinations :—

#### HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND.

##### *Veterinary Examination.*

*At Edinburgh, the            day of            18    .*

These are to certify that            has attended  
as a student during the period prescribed by the regulations established by  
the Directors of the Society, and, having been examined by us, we consider  
him duly qualified to practise the Veterinary Art.

Graduates holding the Certificate of the Society are eligible for appointment as Veterinary Surgeons in Her Majesty's service.

**ARTICLES OF AGREEMENT** made and entered into this 15th day of January 1879, between the Highland and Agricultural Society of Scotland, incorporated by Royal Charter or Letters Patent, bearing date the 17th day of May 1787, by the name and title of the Highland Society of Scotland, at Edinburgh; and of new incorporated by the name and style of the Highland and Agricultural Society of Scotland, by Charter or Letters Patent, granted the 18th day of June 1834 (and hereinafter called "The Society"), of the one part; and the Royal College of Veterinary Surgeons, incorporated by Royal Charter or Letters Patent, dated the 8th day of March 1844 (and hereinafter called "The College"), of the other part:

Whereas the Society have from 1823 instituted lectures on veterinary science and medicine, and appointed examiners to examine students therein, and until 1844 granted to such students certificates of proficiency: And whereas, in 1848, the Society reconstituted its Board of Examiners, and have since granted annually certificates of qualification: And whereas it was, amongst other things, provided by the said letters patent of the 8th day of March 1844, that the concerns of the College should be directed and managed by a Council, to be constituted as therein mentioned: And further, that the said Council should and might make any orders, rules, and bye-laws for fixing and determining, amongst other things, the times, places, and manner of examining students who should have been educated at the Royal Veterinary College of London or the Veterinary College of Edinburgh, or such other Veterinary Colleges as therein mentioned, and who might be desirous to become members of the College, and for regulating the nature and extent of such examinations, and for the appointment of persons to examine and determine upon the fitness and qualifications of such students, and for the admission or rejection of such students, as members of the College, and for fixing and determining the sum and sums of money to be paid by such students, either previous to their examination or upon their admission as members of the College or otherwise, and generally touching all other matters relating to or connected with the College, and the same orders, rules, and bye-laws from time to time to alter, suspend, or repeal, and to make new orders, rules, and bye-laws in their stead as the Council should think most proper or expedient, so as the same were not repugnant to the letters patent now in recital, or to the laws of the realm: And whereas, by a supplemental charter or royal letters patent, dated the 23d day of August 1876, it was, amongst other things, declared that, with certain exceptions therein mentioned and not material for the purposes of these presents, the College and the Council of the same should have and continue to have all such and the same jurisdiction, powers, and authorities for and with respect to the government of the College, and for, *inter alia*, the making, ordaining, confirming, annulling, or revoking orders, rules, and bye-laws, and transacting and ordaining all other matters and things whatsoever for the regulation, government, and advantage of the College, as the College and the Council thereof respectively had under or by virtue of the said hereinbefore-recited charter or letters patent, or in any other lawful manner: And whereas, in pursuance of the powers conferred upon the College or the Council thereof by the said letters patent respectively, certain bye-laws have been made with respect, among other things, to the examination of candidates for the diploma of the College, and such bye-laws are still in force: And whereas the following arrangement has been made and entered into between the College and the Society with a view to the admission of the holders of the certificates of the Society as members of the College, and also for the purpose of terminating the examinations heretofore held by the Society: Now these presents witness, and it is hereby agreed and declared, and in particular the College (so far as the stipulation and provisions hereinafter contained are to be performed or observed by them) do hereby, for themselves and their successors, covenant and agree with and to the Society

and their successors ; and the Society (so far as the stipulation and provisions hereinafter contained are to be performed and observed by them) do hereby covenant and agree with and to the College and their successors in the manner following, that is to say--

1. Every or any holder of a certificate granted by the Society, in manner aforesaid since 1848, shall, on application and on payment of such fees as are hereinafter specified, be admitted as a member of the College, and shall not be required to submit to any further examination previous to such admission.

2. Every holder of a certificate granted by the Society as aforesaid from 1848 to 1872, shall be admitted as a member of the College on payment of a registration fee of one guinea.

3. All candidates for such admission to whom such certificates as aforesaid shall have been granted since the year 1872, shall in like manner, without being required to submit to any further examination previous thereto, be entitled to such admission on payment of fees according to the following scale or table (that is to say)--

- (A) Every holder of a certificate granted during the year 1873, on payment of two guineas.
- (B) Every holder of a certificate granted during the year 1874, on payment of three guineas.
- (C) Every holder of a certificate granted during the year 1875, on payment of four guineas.
- (D) Every holder of a certificate granted during the year 1876, on payment of five guineas.
- (E) Every holder of a certificate granted during the year 1877, on payment of six guineas.
- (F) Every holder of a certificate granted during the year 1878, on payment of seven guineas.

4. All students now enrolled at any of the teaching schools connected with the Society to whom such certificates as aforesaid shall hereafter be granted consistently with the provisions of these presents, shall be admitted and enrolled as members of the College on payment of a fee of seven guineas.

5. The examinations heretofore held by or on behalf of the Society shall be discontinued as from the 1st day of January 1879, but this stipulation shall not preclude or prevent the Society from holding examinations according to its existing bye-laws or regulations for persons already admitted as students of the Society who may hereafter elect or claim to be examined by the examiners thereof in preference to submitting to examinations by or on behalf of the College.

6. The College and Society respectively shall alter, vary, and annul their existing orders, rules, and bye-laws if and so far as may be necessary to give full and complete effect to this agreement, and shall also, if required, apply for and use their best endeavours to obtain supplemental charters for the same or the like object.

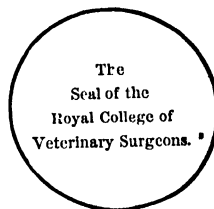
7. If any doubt, difference, or dispute shall hereafter arise between the parties hereto or their successors touching these presents, or the construction hereof, or any clause or provision herein contained, or the rights, duties, or liabilities of either party in connection therewith, the matter in difference shall be referred to two arbitrators or their umpire, pursuant to and so as with regard to the mode and consequences of the reference ; and in all other respects to conform to the provisions in that behalf contained in the Common Law Procedure Act, 1854, or any then subsisting statutory modification thereof : In witness whereof, the Society and the College respectively have

hereunto caused their respective seals to be affixed the day and year first above written.

(Signed) A. GILLON, *Director*.  
 " ANTHONY MURRAY, *Director*.  
 " THOMAS MYLNE, *Director*.  
 " F. N. MENZIES, *Secretary*.



(Signed) WM. HENRY COATES, *Secretary*.



#### BOARD OF EXAMINERS.

1. *Botany*.—Professor Balfour; Dr Cleghorn of Stravithie, St Andrews.
  2. *Chemistry*.—Dr W. Craig; A. Inglis M'Callum.
  3. *Anatomy*.—Dr Dycer; C. Cunningham, Slateford; A. Spreull, Dundee.
  4. *Practical and Clinical Examinations*.—Thomas A. Dollar, London; Finlay Dun, 2 Portland Place, London, W.; Tom Taylor, Manchester; John Lawson, Manchester; John Steele, Biggar; John Borthwick, Kirkliston; C. Cunningham, Slateford; Andrew Spreull, Dundee; Alexander Pottie, Paisley; W. D. Connachie, Selkirk.
  5. *Physiology and Histology*.—Dr Dycer; C. Cunningham, Slateford; Andrew Spreull, Dundee.
  6. *Materia Medica*.—Professor Balfour; Professor Douglas MacLagan; Finlay Dun; Dr Craig; A. I. M'Callum.
  7. *Diseases of Horses*.—John Borthwick, Kirkliston; John Lawson, Manchester; Tom Taylor, Manchester.
  8. *Diseases of Cattle, Sheep, Swine, and Dogs*.—Thomas A. Dollar, London; J. Steele, Biggar; Alex. Pottie, Paisley; W. D. Connachie, Selkirk.
- President of the Board*—Dr Dycer, Edinburgh.  
*President of the Clinical Board*—Thomas A. Dollar, London.

## SYLLABUS OF VETERINARY EXAMINATIONS.

### FIRST OR PRELIMINARY EXAMINATION.

#### BOTANY.

Structure and functions of nutritive and reproductive organs of plants. Natural families of medicinal and poisonous plants. Forage Plants. Diseases of agricultural plants caused by fungi. *Text-book*—Balfour's "Elements of Botany," A. & C. Black; 3s. 6d.

#### CHEMISTRY.

Elements of inorganic and organic chemistry; physiological chemistry; testing for commoner metals. *Text-book*—Roscoe's "Lessons in Elementary Chemistry," Macmillan & Co.; 4s. 6d.

## ANATOMY.

Anatomy of bones, muscles, blood-vessels, nerves, and viscera of horse, cow, and dog. Description of relative position of parts displayed by various dissections. Demonstration from actual specimens of muscles, tendons, blood-vessels, and nerves, of horse's limbs, larynx, eye, &c. Comparative anatomy of veterinary patients. The breeding, rearing, feeding, and humane treatment of the live stock of the farm—the different breeds—their characteristics—the districts where they are principally met with—and also the best and most humane system of horse-breaking. *Text-books*—Strangeways' "Anatomy," Maclachlan & Stewart; 17s. Chauveau's "Comparative Anatomy of the Domesticated Animals," by George Fleming, Veterinary Surgeon, Royal Engineers, Churchill & Sons; £1, 11s. 6d.

## FINAL EXAMINATION.

## THE PRACTICAL AND CLINICAL EXAMINATION

Include diagnosis and treatment, orally and in writing, of cases of lameness and diseases of horses, cattle, sheep, dogs, and swine. Examination of horses as to soundness. Surgical and other operations performed on veterinary patients. Examination, chiefly of morbid specimens, mostly conducted at the abattoirs.

## PHYSIOLOGY AND HISTOLOGY.

Minute anatomy of bone, blood, lung, and other tissues, of inflammatory products, and of tumours. Processes of digestion, circulation, respiration, secretion, and excretion. Functions of nervous and reproductive systems. *Text-books*—"Lessons in Elementary Physiology," by Thomas H. Huxley, LL.D. and F.R.S., Macmillan & Co.; 4s. 6d. Kirke's "Physiology." Bennet's "Physiology."

## MATERIA MEDICA.

Sources, mineral, botanical, or animal. Physical and chemical properties. Preparations, physiological action, therapeutic uses and doses of medicines. Poisoning in the lower animals, symptoms, post-mortem appearances, antidotes. Writing of prescriptions. *Text-books*—"Veterinary Medicines, their Actions and Uses," by Finlay Dun, Edmonston & Douglas, Edinburgh; 12s. 6d. "Veterinarian's Pocket Conspectus," by Thomas Walley, M.R.C.V.S., Lorimer and Gillies, Edinburgh.

## DISEASES OF HORSES.

Nature, symptoms, post-mortem appearances, causes, treatment, and prevention; accidents; construction and management of stables; shoeing. *Text-books*—"Manual of Veterinary Science," by the late William Dick, A. & C. Black. Green's "Morbid Anatomy." Williams' "Principles and Practice of Veterinary Surgery," Maclachlan & Stewart, Edinburgh; 30s.

## DISEASES OF CATTLE, SHEEP, SWINE, AND DOGS.

Nature, symptoms, post-mortem appearances; remedial and preventive treatment; dieting and general management of domestic animals. *Text-books*—Youatt on "Cattle, Sheep, Pigs, and Dogs." Blaine's "Principles of Veterinary Art." Gamgee's "Domesticated Animals in Health and Disease," Fullarton & Co., Edinburgh. Williams' "Principles and Practice of Veterinary Medicine;" 30s.

## CERTIFICATES IN FORESTRY.

The Society grants FIRST and SECOND CLASS CERTIFICATES in FORESTRY.

### BOARD OF EXAMINERS.

1. *Science of Forestry and Practical Management of Woods*.—Dr CLEG-  
HORN, of Stravithie, St Andrews; JOHN MACGREGOR, Ladywell, Dun-  
keld; WILLIAM M'CORQUODALE, Scone Palace, Perth; J. GRANT  
THOMSON, Grantown, Strathspey.
2. *Elements of Botany*.—Professor BALFOUR.
3. *Nature and Properties of Soils, Drainage, and Effects of Climate*.—  
Professor WILSON.
4. *Land and Timber Measuring and Surveying; Mechanics and Construc-  
tion, as applied to Fencing, Drainage, Bridging, and Road-Making;  
Implements of Forestry*.—A. W. BELFRAGE, C.E.
5. *Book-keeping and Accounts*.—KENNETH MACKENZIE, C.A., and JOHN  
TURNBULL SMITH, C.A.

Candidates must possess—1st, A thorough acquaintance with the details of practical forestry. 2d, a general knowledge of the following branches of study, so far as these apply to Forestry:—The Outlines of Botany; the Nature and Properties of Soils, Drainage and Effects of Climate; Land and Timber Measuring and Surveying; Mechanics and Construction, as applied to fencing, draining, bridging, and road-making; Implements of Forestry; Book-keeping and Accounts. The Examinations are open to Candidates of any age.

## SYLLABUS OF EXAMINATION.

### I.—SCIENCE OF FORESTRY AND PRACTICAL MANAGEMENT OF WOODS.

1. Formation and ripening of Wood. Predisposing causes of decay. 2. Restoration of Wood-lands:—(1.) Natural reproduction; (2.) Artificial planting. 3. General management of plantations. Cropping by rotation. Trees recommended for different situations. 4. Season and methods of pruning, thinning, and felling. 5. Circumstances unfavourable to the growth of trees. 6. Mechanical appliances for conveying and converting timber. Construction of saw-mills. 7. Qualities and uses of chief indigenous timbers. Processes of preserving timber. 8. Management of nurseries. Seed-sowing. 9. Collection of forest produce. 10. Manufacture of tar and charcoal. 11. Insects injurious to trees—preservation of birds which prey upon them, drawing a distinction between birds which are beneficial and those which are destructive to trees.

### II.—ELEMENTS OF BOTANY.

1. Nutritive Organs of plants.—Root, stem, leaves. Functions of roots. Various kinds of stems, with examples. Use of the stem. Structure of leaves. Different kinds of leaves. Arrangement and functions of leaves. 2. Reproductive Organs.—Flower and its parts. Arrangement of the whorls of the flower—calyx, corolla, stamens, pistil. Ovule. Mature pistil or fruit. Pruning and grafting. Seed. Young plant or embryo. Sprouting of the seed or germination. 3. General Principles of Classification.—Meaning of the terms Class, Order, Genus, Species. Illustrations taken from common forest trees and shrubs. Practical Examination on fresh specimens and models;

some of the latter may be seen in the Museum at the Royal Botanic Garden, which is open daily to the public free. Candidates may consult Professor Balfour's "Elements of Botany," published by A. & C. Black, Edinburgh, 1869. Price 3s. 6d.

### III.—NATURE AND PROPERTIES OF SOILS, DRAINAGE AND EFFECTS OF CLIMATE.

1. The different descriptions of soils, their classification, and suitability to growth of different descriptions of timber trees. 2. The composition and constituents of soils. The relations between the soil and trees growing on it. 3. The effects of drainage on soils and on climate. 4. The mode of drainage for plantations. 5. The influence of temperature, rainfall, aspect, shelter, and prevailing winds on tree life. 6. The methods of registering and recording observations, and the instruments used.

### IV.—LAND AND TIMBER MEASURING AND SURVEYING ; MECHANICS AND CONSTRUCTION AS APPLIED TO FENCING, BRIDGING, AND ROAD-MAKING; IMPLEMENTS OF FORESTRY.

1. The use of the Level and Measuring Chain. Measuring and mapping surface areas. 2. The measurement of solid bodies—as timber, stacked bark, faggots, &c., earthwork. 3. The different modes of fencing and enclosing plantations ; their relative advantages, durability, cost of construction, and repairs. 4. The setting out and formation of roads for temporary or permanent use. 5. The construction of bridges over streams and gullies ; of gates or other entrances. 6. The different implements and tools used in planting, pruning, felling, barking, and working up timber trees, or preparing them for sale. Ewart's "Agricultural Assistant," Blackie & Son, Glasgow and Edinburgh, price 3s. 6d. Struchan's "Agricultural Tables," Oliver & Boyd, Edinburgh, price 2s. 6d.

### V.—BOOK-KEEPING AND ACCOUNTS.

1. Questions in practice and proportion. 2. Book-keeping—describe books to be kept ; give examples. Taking of stock.

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## CHEMICAL DEPARTMENT.

The object of the Chemical Department is to arrange Experiments to be conducted at the Society's Agricultural Stations, and to take notice of any matter of chemical interest connected with agriculture which may arise.

*Chemist.*—Dr ANDREW P. AITKEN, Highland and Agricultural Society's Chambers, No. 3 George IV. Bridge, and the Laboratory, Clyde Street, Edinburgh, where samples for analysis should be sent.

## P R E M I U M S.

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### GENERAL REGULATIONS FOR COMPETITORS.

All reports must be legibly written, and on one side of the paper only ; they must specify the number and subject of the Premium for which they are in competition ; they must bear a distinguishing motto, and be accompanied by a sealed letter similarly marked, containing the name and address of the Reporter—initials must not be used.

No sealed letter, unless belonging to a Report found entitled to at least one-half of the premium offered, will be opened without the author's consent.

Reports, for which a Premium, or one-half of it, has been awarded, become the property of the Society, and cannot be published in whole or in part, nor circulated in any manner, without the consent of the Directors. All other papers will be returned to the authors, if applied for within twelve months.

When a Report is unsatisfactory, the Society is not bound to award the whole or any part of a premium.

All Reports must be of a practical character, containing the results of the writer's own observation or experiment, and the special conditions attached to each Premium must be strictly fulfilled. General essays, and papers compiled from books, will not be rewarded. Weights and measurements must be indicated by the Imperial standards.

The Directors, before awarding a Premium, shall have power to require the writer of any report to verify the statements made in it.

The decisions of the Board of Directors are final and conclusive as to all Premiums, whether for Reports or at General or District Shows ; and it shall not be competent to raise any question or appeal touching such decisions before any other tribunal.

Reports on subjects not included in the Premium List will be received, and honorary rewards will be given when merited.



## CLASS I.

### R E P O R T S.

#### SECTION 1.—THE SCIENCE AND PRACTICE OF AGRICULTURE.

##### FOR APPROVED REPORTS.

1. On the Agriculture of the Counties of Forfar and Kincardine—Thirty Sovereigns. To be lodged by 1st November 1879.

The Report should embrace full details of the different systems of Farm Management observed in the Counties, and of the progress which Agriculture and other industries have made within the last 25 years.

2. On the Agriculture of the Counties of Clackmannan and Kinross—Twenty Sovereigns. To be lodged by 1st November 1879.

The Report should embrace full details of the different systems of Farm Management observed in the Counties, and of the progress which Agriculture and other industries have made within the last 25 years.

3. On the Agriculture of Bute and Arran—Twenty Sovereigns. To be lodged by 1st November 1879.

The Report should embrace full details of the different systems of Farm Management observed in the County, and of the progress which Agriculture and other industries have made within the last 25 years.

4. On the Agriculture of the County of Sutherland—Thirty Sovereigns. To be lodged by 1st November 1879.

The Report should embrace full details of the different systems of Farm Management observed in the County, and of the progress which Agriculture and other industries have made within the last 25 years.

5. On the Agriculture of the County of Lanark—Forty Sovereigns. To be lodged by 1st November 1880.

The Report should embrace full details of the different systems of Farm Management observed in the County, and of the progress which Agriculture and other industries have made within the last 25 years.

6. On the Physiological Distinctions in the condition of the Scottish Peasantry in different Districts—Thirty Sovereigns. To be lodged by 1st November 1879.

The Reporter must furnish statistics of the Longevity, &c., of the peasantry, as contrasted with other classes, and give suggestions for the amelioration of any causes which affect them injuriously.

7. On the System of Rural Economy that best provides a sufficient supply of Labour during press of Agricultural work—Ten Sovereigns. To be lodged by 1st November 1879.

8. On the results of Experiments for fixing and retaining the volatile and soluble ingredients in farm-yard Manure—Twenty Sovereigns. To be lodged by 1st November 1880.

The Report must detail the treatment adopted to fix and retain these ingredients—the materials used for that purpose—and the quantity and cost thereof—comparative analyses of the manure with and without the treatment, and also a statement of the crops grown with manure with and without such treatment, must be given by the Reporter. The Experiments to have extended over at least two years and crops.

9. On the results of Experiments for ascertaining the comparative value of farm-yard Manure obtained from cattle fed upon different varieties of food, by the application of such manures to farm crops—Twenty Sovereigns. To be lodged by 1st November in any year.

The Report must state the effects produced on two successive crops by the application of manure obtained from cattle fed on different sorts of food, such as turnips and straw alone; and turnips and straw, with an addition of oil-cake, linseed, bean-meal, grain, or other substances. The animals should be as nearly as possible of the same age, weight, condition, and maturity, and each lot should receive daily the same quantity of litter; and, except as to the difference of food, they must be treated alike.

The preparation of the manure, by fermentation or otherwise, should be in every respect the same; and it is desirable that not less than two several experiments be made with each kind, and that the ground to which it is to be applied be as equal as possible in quality and condition.

10. On the comparative value of Manure made in the ordinary manner, and of the Manure kept under cover till applied to the Land—Twenty Sovereigns. To be lodged by 1st November in any year.

The Experiment may be conducted either with manure made in the open straw-yard, contrasted with that made in covered hammels or boxes, or with manure made in feeding houses, part of which shall have been placed under cover, and part removed to the open dung-pit, and kept carefully unmixed with any other manure. Preference will be given

to experiments embracing both of these modes. The cattle must be fed and littered alike. There must be at least an acre of land experimented on with each sort of manure—the different lots must be manured to the same extent, and be equal in soil, and the crops must be accurately weighed and measured on two separate portions of each lot, not less than 20 poles. The result, as given by two successive crops, to be reported.

11. On the means successfully employed for obtaining new Agricultural Plants, or new and superior varieties, or improved sub-varieties, of any of the cereal grains, grasses, roots, or other agricultural plants at present cultivated in this country—Medals, or sums of Money not exceeding Fifty Sovereigns. To be lodged by 1st November in any year.

It is necessary that the varieties and sub-varieties reported upon shall have been proved capable of reproduction from seed, and also that the relation they bear to others, or well-known sorts, should be stated. The Reporter is further requested to mention the effects that he may have observed produced by different soils, manures, &c., on the plants forming the subject of report, and how far he may have ascertained such effects to be lasting.

Should any improved variety reported upon be the result of direct experiment by cross impregnation, involving expense and long-continued attention, a higher premium will be awarded.

12. On the cultivation of the Cabbage as a field crop—The Gold Medal, or Ten Sovereigns. To be lodged by 1st November 1879.

The Experiment must be conducted in Scotland on not less than one acre, and contrasted with a like extent under turnips in the same field. Both lots must have been under one rotation, and must be prepared and manured in the same manner.

13. On the Insects which prey upon Agricultural Plants, and the diseases occasioned by them, and the best means of prevention—Twenty Sovereigns. To be lodged by 1st November 1879.

The Report to be accompanied, where practicable, by specimens of the insects.

14. On the hardy and useful Herbaceous Plants of any country where such climate exists as to induce the belief that the plants may be beneficially introduced into the cultivation of Scotland—The Gold Medal, or Ten Sovereigns. To be lodged by 1st November in any year.

Attention is particularly directed to the Grains and Grasses of China, Japan, the Islands of the Eastern Archipelago, the Himalaya country, the Falkland and South Sea Islands, California, and the high north-western district of America.

Reporters are required to give the generic and specific names of the plants treated of, with the authority for the same—together with the

native names, so far as known ; and to state the elevation of the locality and nature of the soil in which they are cultivated, or which they naturally inhabit, with their qualities or uses ; and it is further requested that the descriptions be accompanied, in so far as possible, with specimens of the plants, and their fruit, seed, and other products.

15. On the adulteration of Agricultural Seeds, whether by colouring, mixing, or otherwise, and the best means of detecting the same, and preventing their sale—Ten Sovereigns. To be lodged by 1st November 1879.

16. On the comparative advantages of grazing Cattle and Sheep, together or separately, upon permanent pastures—Ten Sovereigns. To be lodged by 1st November 1879.

The Reporter's attention is specially directed to unenclosed lands on hill, moorland, marshy, or heathery districts occupied by natural grasses.

17. On the comparative advantages of fattening Cattle in stalls, in loose houses or boxes, and in sheds or hammels—Twenty Sovereigns. To be lodged by 1st November in any year.

The Report must detail the comparative result of actual experiments.

The same quantities and kinds of food must be used. Information is required as to the comparative expense of attendance, the cost of erecting the buildings, and any other circumstance deserving of attention. The state of the weather during the experiment, in point of temperature and wetness, and the advantages or disadvantages of clipping Cattle put up to feed, must be particularly noted and reported.\*

18. On Experiments for ascertaining the actual addition of weight to growing or fattening Stock, by the use of different kinds of food—Twenty Sovereigns. To be lodged by 1st November in any year.

The attention of the Experimenter is directed to turnips, carrots, beet, mangold-wurzel, potatoes, cabbage, as well as to beans, oats, barley, Indian corn, linseed, oil-cake or rape-cake, and to the effect of warmth and proper ventilation, and the difference between food cooked and raw. The above roots and other kinds of food are merely suggested ; competitors are neither restricted to them nor obliged to experiment on all of them.

When experiments are made with linseed and cake, attention should be paid to the comparative advantages, economically and otherwise, of the substance in these two states.

Before commencing the comparative experiments, the animals must be fed alike for some time previously.

The progress of different breeds may be compared. This will form an interesting experiment of itself, for Reports of which encouragement will be given.\*

\* The experiments specified in the two previous subjects must be conducted over a period of not less than three months. No lot shall

consist of fewer than four Cattle or ten Sheep. The animals selected should be of the same age, sex, and breed, and, as nearly as possible, of the same weight, condition, and maturity. The live weight before and after the experiment must be stated, and, if killed, their dead weight and quantity of tallow.

19. On the different methods of making and curing Butter, both in this country and abroad. The Reporter to give details of results as regards quantity, quality, keeping quality, and comparative expense—Ten Sovereigns. To be lodged by 1st November 1879.

20. On the results of different modes of feeding on the quantity and quality of Butter and Cheese produced—Ten Sovereigns. To be lodged by 1st November 1879.

21. On the Cheviot Breed of Sheep, and the means that have been or might be used for its improvement—The Gold Medal, or Ten Sovereigns. To be lodged by 1st November 1879.

22. On the breeding of Horses for the road or field, and their treatment when young—Ten Sovereigns. To be lodged by 1st November 1879.

This Report is confined to breeders of horses, who are requested to state their own experiments and results.

23. On the adaptability of the various soils to the breeding and rearing of Horses—Ten Sovereigns. To be lodged by 1st November 1879.

The Report must state the diseases arising from pasturing on the various soils, and how to prevent them.

24. On the value of Inoculation as a prevention of *Pleuro-Pneumonia Contagiosa*; the best method of performing the operation; the favourable and unfavourable results, and statistics—Ten Sovereigns. To be lodged by 1st November 1879.

25. On the History (ancient and modern), nature, symptoms, and treatment of Sheep-pox (*Variola Ovina*), with a minute description of the symptoms which distinguish it from all other eruptive ovine diseases—Ten Sovereigns. To be lodged by 1st November 1879.

26. On the nature, symptoms, causes, preventive, and remedial treatment, and *post-mortem* appearances of Louping-ill in Sheep. The popular as well as the scientific names to be made use of—Ten Sovereigns. To be lodged by 1st November 1879.

27. On the effect of Sewage upon the Animal System, introduced either with drinking water or with herbage when it has been used as a top-dressing—Ten Sovereigns. To be lodged by 1st November 1879.

28. On a description of any Scheme whereby Town Sewage has been successfully utilised for irrigation in Agriculture—Twenty Sovereigns. To be lodged by 1st November in any year.

The Scheme described must have been in operation for at least two years—the description to include (1) the manner in which the land was drained and prepared for irrigation, and the cost of preparing it per acre; (2) the quantity of Sewage used per acre, and the mode in which it is applied to the fields; (3) the annual cost per acre of wages, &c., in working the process; (4) the kind, amount, and value of the crops obtained per acre.

29. On any useful practice in Rural Economy adopted in other countries, and susceptible of being introduced with advantage into Scotland—The Gold Medal. To be lodged by 1st November in any year.

The purpose chiefly contemplated by the offer of this Premium is to induce travellers to notice and record such particular practices as may seem calculated to benefit Scotland. The Report to be founded on personal observation.

## SECTION 2.—ESTATE IMPROVEMENTS.

### FOR APPROVED REPORTS.

1. By the Proprietor in Scotland who shall have executed the most judicious, successful, and extensive improvement—The Gold Medal, or Ten Sovereigns. To be lodged by 1st November in any year.

Should the successful Report be written for the Proprietor by his resident factor or farm manager, a Medium Gold Medal will be awarded to the writer in addition to the Gold Medal to the Proprietor.

The merits of the Report will not be determined so much by the mere extent of the improvements, as by their character and relation to the size of the property. The improvements may comprise reclaiming, draining, enclosing, planting, road-making, building, and all other operations proper to landed estates. The period within which the operations may have been conducted is not limited, except that it must not exceed the term of the Reporter's proprietorship.

2. By the Proprietor in Scotland who shall have erected on his estate the most approved Farm-buildings—The Gold Medal. Reports, Plans, and Specifications to be lodged by 1st November in any year.

3. By the Proprietor or Tenant in Scotland who shall have reclaimed within the ten preceding years not less than forty acres of waste land—The Gold Medal, or Ten Sovereigns. To be lodged by 1st November in any year.

4. By the Tenant in Scotland who shall have reclaimed within the ten preceding years not less than twenty acres of waste land—The Gold Medal, or Ten Sovereigns. To be lodged by 1st November in any year.

5. By the Tenant in Scotland who shall have reclaimed not less than ten acres within a similar period—The Medium Gold Medal, or Five Sovereigns. To be lodged by 1st November in any year.

The Reports in competition for Nos. 3, 4, and 5 may comprehend such general observations on the improvement of waste lands as the writer's experience may lead him to make, but must refer especially to the lands reclaimed—to the nature of the soil—the previous state and probable value of the subject—the obstacles opposed to its improvement—the details of the various operations—the mode of cultivation adopted—and the produce and value of the crops produced. As the required extent cannot be made up of different patches of land, the improvement must have relation to one subject; it must be of a profitable character, and a rotation of crops must have been concluded before the date of the Report. *A detailed statement of the expenditure and return*, and a certified measurement of the ground are requisite.

6. By the Proprietor or Tenant in Scotland who shall have improved within the ten preceding years the pasturage of not less than thirty acres, by means of top-dressing, draining, or otherwise, without tillage, in situations where tillage may be inexpedient—The Gold Medal, or Ten Sovereigns. To be lodged by 1st November in any year.

7. By the Tenant in Scotland who shall have improved not less than ten acres within a similar period—The Minor Gold Medal. To be lodged by 1st November in any year.

Reports in competition for Nos. 6 and 7 must state the particular mode of management adopted, the substances applied, the elevation and nature of the soil, its previous natural products, and the changes produced.

### SECTION 3.—MACHINERY.

For the best and most approved Steam Reaping Machine, to cut and bind to the satisfaction of a Committee of the Society. The machine to be tested during one whole season in such manner as the Committee may direct—Fifty Sovereigns. Intima-

tion of intention to compete must be lodged by the 1st of June 1879.

The Harvester to work in the vicinity of Edinburgh during the whole harvest. The owner of the Harvester to arrange with the farmers on whose ground it is to be employed, but the farms must be approved by the Society. A Committee will be appointed to visit the farms and inspect the work as well as the working of the machine, and report to the Directors.

#### FOR APPROVED REPORTS.

1. On such inventions or improvements, by the reporters, of any implement or machine as shall be deemed by the Society of public utility—Medals, or sums of money not exceeding Fifty Sovereigns. To be lodged at any time.

Reports should be accompanied by drawings and descriptions of the implement or machine, and, if necessary, by a model.

2. On the best and most improved Cattle Truck for feeding and watering the animals in transit—Twenty Sovereigns. To be lodged by 1st November 1879.

Reports must be accompanied with drawings and description, or, if necessary, by a model.

### SECTION 4.—FORESTRY DEPARTMENT.

#### FOR APPROVED REPORTS.

1. By the Proprietor in Scotland who shall, within the five preceding years, have planted not less than 150 acres—The Gold Medal. To be lodged by 1st November in any year.

The whole planting operations which may have been conducted by the Reporter within the five years, whether completed or not, must be embraced, and he must state the expense—description of soils,—age, kind, and number of trees planted per acre—mode of planting, draining, and fencing—general state of the plantation—and any other observations of interest.

2. On Plantations of not less than eight years' standing, formed on deep peat bog—The Medium Gold Medal, or Five Sovereigns. To be lodged by 1st November 1879.

The Premium is strictly applicable to deep peat or flow moss; the condition of the moss previous to planting, as well as at the date of the Report, should, if possible, be stated.

The Report must describe the mode and extent of the drainage, and the effect it has had in subsiding the moss—the trenching, levelling, or other preliminary operations that may have been performed on the



surface—the mode of planting—kinds, sizes, and numbers of trees planted per acre—and their relative progress and value, as compared with plantations of a similar age and description grown on other soils in the vicinity.

3. On the more extended introduction of hardy, useful, or ornamental Trees, which have not hitherto been generally cultivated in Scotland—The Medium Gold Medal, or Five Sovereigns. To be lodged by 1st November in any year.

The Report should specify as distinctly as possible the kind of trees introduced. The adaptation of the trees for use or ornament, and their comparative progress should be mentioned. Attention is directed to the introduction of any tree as a nurse in young plantations, which by growing rapidly for several years, and attaining maturity when at the height of 20 or 25 feet, might realise the advantage and avoid the evils of thick planting.

4. On the *Abies Albertiana*, and its value for planting in Scotland, with detailed statistics of its progress in the country—The Medium Gold Medal, or Five Sovereigns. To be lodged by 1st November 1879.

5. On the varieties of Trees best adapted for planting as shelter in the Islands of Scotland—The Medium Gold Medal, or Five Sovereigns. To be lodged by 1st November 1879.

6. On the old and remarkable Sycamores (the *Acer Pseudo-Platanus*) in Scotland—The Gold Medal, or Ten Sovereigns. To be lodged by 1st November 1879.

Details of their growth, measurements, and condition, and any particulars of their history must be given. Photographs and drawings are desirable.

7. On the old and remarkable Ashes (*Fraxinus excelsior*) in Scotland—The Gold Medal, or Ten Sovereigns. To be lodged by 1st November 1879.

Details of their growth, measurements, and condition, and any particulars of their history, must be given. Photographs and drawings are desirable.

8. On the deterioration in quality and durability of Home-Grown Timber at the present day, especially regarding Scotch Fir, as compared with the timber of the old Scotch forests, and suggestions for a remedy—The Medium Gold Medal, or Five Sovereigns. To be lodged by 1st November 1879.

9. On the Cutting and Transport of Firewood (soft and hard wood), with detailed statement of charges—The Medium Gold Medal, or Five Sovereigns. To be lodged by 1st November 1879.

In many districts large branches and tops of trees are burned up, which in England, and much more on the Continent, are sold at a profit. The Report should state the system pursued, and contain practical suggestions for utilising fragments now destroyed.

10. On the more extended cultivation in Scotland of Charcoal-producing Plants, for gunpowder or commercial purposes—The Medium Gold Medal, or Five Sovereigns. To be lodged by 1st November 1879.

Reference to be made to suitable varieties of plants not generally grown in this country for that purpose, such as *Rhamnus Frangula*, prices realisable, and suggestions for their more general introduction, treatment, &c.

11. On the Woods, Forests, and Forestry in the county of Perth—The Gold Medal, or Ten Sovereigns. To be lodged by 1st November 1879.

12. On the Woods, Forests, and Forestry in the county of Ross—The Gold Medal, or Ten Sovereigns. To be lodged by 1st November 1879.

13. On the Woods, Forests, and Forestry in the county of Inverness—The Gold Medal, or Ten Sovereigns. To be lodged by 1st November 1879.

14. On the comparative advantages of High Forest with Coppice, or Coppice with a limited number of Standard Trees—The Medium Gold Medal, or Five Sovereigns. To be lodged by 1st November 1879.

15. On the utilisation of waste produce of Forests and Woodlands, as matter for making, either separately or in combination with other substances, an Artificial Fuel—The Gold Medal, or Ten Sovereigns. To be lodged by 1st November 1879.

16. On the Insects most injurious to Forest Trees, and the diseases occasioned by them, and the best means of prevention—Twenty Sovereigns. To be lodged by 1st November 1879.

The Report to be accompanied, where practicable, by specimens of the insects.

17. On the effects of the severe Frost and Winter of 1878-79 on Trees and Shrubs generally, in different soils and situations—The Medium Gold Medal, or Five Sovereigns. To be lodged by 1st November 1879.

## CLASS II.

### DISTRICT COMPETITIONS.

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*The Money Premiums and Medals awarded at District Competitions will be issued in January next. No payments must, therefore, be made by the Secretary or Treasurer of any local Association.*

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*Grants in aid of DISTRICT COMPETITIONS for 1880 must be applied for before 1st NOVEMBER next.*

*When a Grant has expired, the District cannot apply again for aid for two years.*

#### SECTION 1.—CATTLE.

*Note.*—The Society's Cattle Premiums are granted to each District for three alternate years, on condition that the District shall, in the two intermediate years, continue the Competitions by offering for the same description of stock a sum not less than one-half of that given by the Society.

At the intermediate Competitions, a Silver Medal will be placed at the disposal of the Committee, to be awarded for the Best Bull belonging to a Proprietor, and of the Class for which the District receives Premiums; also three Medium Silver Medals to be given along with the first prize in the three Classes of Cattle belonging to Tenants, provided there are not fewer than two lots exhibited in each class.

The selection of the Breed is left to the local Committee. See Rule 6.

#### DISTRICTS.

1. DISTRICT OF EAST KILBRIDE.—*Convener*, William Forrest of Lawmuir, Allanton, Hamilton; *Secretary*, William Hay, Auburn Cottage, East Kilbride. Granted 1874.
2. COUNTY OF KINCARDINE.—*Convener*, Sir Thomas Gladstone of Fasque, Bart., Laurencekirk; *Secretary*, James B. Greig, Laurencekirk. Granted 1874.
3. DISTRICT OF GARIOCH.—*Convener*, William Leslie of Warthill, Pitcaple; *Secretary*, William Home, Westerton of Pitmedden, Inch. Granted 1874.
4. DISTRICT OF STRATHBOGIE.—*Convener*, Robert Simpson of Cobairdy, Huntly; *Joint-Secretaries*, Charles Wilson, W.S., Huntly, and David Bruce, Broadland, Huntly. Granted 1875.
5. DISTRICT OF THE UNITED BANFFSHIRE SOCIETY.—*Convener*, W. J. Tayler of Glenbarry, Rothiemay House, Huntly; *Secretary*, George Cumming, Banff. Granted 1875.
6. DISTRICT OF TURRIFF.—*Convener*, Alexander Stuart of Laithers, Turriff; *Secretary*, William Ingram, Sunnyhill, Turriff. Granted 1877.

7. DISTRICT OF AVONDALE.—*Convener*, Thomas Tennent of Priestgill, Strathaven; *Secretary*, William Lambie of Halburn, Strathaven. Granted 1877.
8. DISTRICT OF WEEM.—*Convener*, Sir Robert Menzies of Menzies, Bart., Farleyer, Aberfeldy; *Secretary*, R. A. Meikle, Camserny Cottage, Aberfeldy. Granted 1877.
9. DISTRICT OF THE DEESIDE UNION.—*Convener*, Colonel Innes of Learney, Torphins; *Secretary*, James Shaw, Tillyching, Lumphanan. Granted 1879.
10. DISTRICT OF LOBN.—*Convener*, Colonel Macdougall of Dunollie, Oban; *Secretary*, Donald MacGregor, Solicitor, Oban. Granted 1879.
11. DISTRICT OF UPPER STRATHEARN.—*Convener*, D. R. Williamson of Lawers, Crieff; *Secretary*, James M'Laren, junior, Crieff. Granted 1876.
12. DISTRICT OF FORMARTINE.—*Convener*, The Earl of Aberdeen; *Secretary*, Alex. Davidson, Mains of Cairnbrogie, Old Meldrum. Granted 1878.
13. DISTRICT OF THE KINGLASSIE SOCIETY.—*Convener*, R. Sinclair Ayton of Inchdairnie, Kirkcaldy; *Secretary*, David Beath, Auchmuir, Leslie. Granted 1878.
14. COUNTY OF AYR.—*Convener*, Hon. G. R. Vernon, Auchans House, Kilmarnock; *Secretary*, James M'Murtrie, Ayr. Granted 1878.

#### PREMIUMS.

1. Best Bull, of any pure breed, belonging to a Proprietor, The Silver Medal.
2. Best Bull, of any pure breed, calved before 1st January 1877,  
Medium Silver Medal and £4  
Second best, . . . . . £3  
Third best, . . . . . £1
3. Best Bull, of any pure breed, calved after 1st January 1877,  
Medium Silver Medal and £3  
Second best, . . . . . £2  
Third best, . . . . . £1
4. Best 2-year-old Heifer (if Highland breed, 3 years), of any pure breed,  
Medium Silver Medal and £3  
Second best, . . . . . £2  
Third best, . . . . . £1

In 1879.

Nos. 1, 2, 3, 4, and 5 are in competition for the last year.

Nos. 6, 7, and 8 for the second year.

Nos. 9 and 10 for the first year.

Nos. 11, 12, 13, and 14 compete for local Premiums.

#### SECTION 2.—HORSES

FOR AGRICULTURAL PURPOSES.

*Note.*—The Society's Stallion Premiums are granted to each District for two years, and are followed by Premiums for other two years for Brood Mares, and again for a similar period by Premiums for Entire Colts and Fillies.

##### 1. STALLIONS.

1. EASTERN DISTRICT OF BERWICKSHIRE.—*Convener*, John Allan, Redhaugh, Cockburnspath; *Secretary*, James Gibson, Eyecliffe Chemical Works, Ayton. Granted 1878.

2. DISTRICT OF LAUDERDALE.—*Convener*, George M'Dougal, Blythe, Lauder; *Secretary*, Thomas Broomfield, Lauder. Granted 1878.
3. MACHARS DISTRICT OF WIGTOWNSHIRE.—*Convener*, Sir Herbert E. Maxwell of Monreith, Bart., Port William; *Secretary*, Charles M. Routledge, Banker, Port William. Granted 1878.
4. COUNTY OF PEEBLES.—*Convener*, Lord Arthur Cecil, Orchard Mains, Innerleithen; *Secretary*, William Riddell, Howford, Peebles. Granted 1878.
5. EASTERN DISTRICT OF STIRLINGSHIRE.—*Convener*, Ralph Stark of Summerford, Falkirk; *Secretary*, Thomas Binnie, Falkirk. Granted 1878.
6. DISTRICT OF THE LESMAHAGOW SOCIETY.—*Convener*, Gavin Hamilton of Auldtown, Lesmahagow; *Secretary*, John Hamilton, British Linen Co. Bank, Lesmahagow. Granted 1879.
7. DISTRICT OF CARRICK.—*Convener*, John Rankine of Beoch, Lochlands, Maybole; *Secretary*, David Brown, Maybole. Granted 1879.

#### PREMIUM.

Best Stallion, not under 3 years, and not above 12 years old, . . . £25

In 1879.

Nos. 1, 2, 3, 4, and 5 are in competition for the last year.

Nos. 6 and 7 for the first year.

#### 2. BROOD MARES.

1. DISTRICT OF THE DALBEATTIE SOCIETY.—*Convener*, W. H. Maxwell of Munches, Dalbeattie; *Secretary*, R. W. Macnab, Union Bank, Dalbeattie. Granted 1878.
2. RHINS DISTRICT OF WIGTOWNSHIRE.—*Convener*, R. Vans-Agnew of Barnbarroch, M.P.; *Secretary*, Hugh Adair, Stranraer. Granted 1878.
3. DISTRICT OF AUCHTERMUCHTY.—*Convener*, John Bogie, Balcanquhal, Auchtermuchty; *Secretary*, H. W. Walker, Auchtermuchty. Granted 1878.
4. DISTRICT OF THE EAST OF FIFE SOCIETY.—*Convener*, John Anstruther Thomson of Charlton, Colinsburgh; *Secretary*, John Flockhart, Colinsburgh. Granted 1878.
5. COUNTY OF CLACKMANNAN.—*Convener*, James Johnstone of Alva; *Secretary*, D. & T. Fisher, Jellyholm, Alloa. Granted 1879.
6. DISTRICT OF LOCKERBIE.—*Convener*, Sir Alexander Jardine of Applegarth, Bart., Jardine Hall, Lockerbie; *Secretary*, David Dobie, Banker, Lockerbie. Granted 1879.

#### PREMIUMS.

- |                     |           |                         |    |
|---------------------|-----------|-------------------------|----|
| 1. Best Brood Mare, | . . . . . | Medium Silver Medal and | £4 |
| 2. Second best,     | . . . . . |                         | £3 |
| 3. Third best,      | . . . . . |                         | £1 |

In 1879.

Nos. 1, 2, 3, and 4 are in competition for the last year.

Nos. 5 and 6 for the first year.

#### 3. ENTIRE COLTS AND FILLIES.

1. WESTERN DISTRICT OF FIFESHIRE.—*Convener*, Robert Husband Gellet, Dunfermline; *Secretary*, James M'Farlane, Canmore Street, Dunfermline. Granted 1878.
2. DISTRICT OF STRATHENDRICK.—*Convener*, C. H. H. Wilsone of Dalnair, Endrick Bank, Drymen; *Secretary*, James Murray, Catter House, Drymen. Granted 1878.

3. DISTRICT OF EASTER ROSS.—*Convener*, David Monro of Allan, Tain ; *Secretary*, Hugh Murray, Banker, Tain. Granted 1879.
4. DISTRICT OF THE ROYAL NORTHERN SOCIETY.—*Convener*, Colonel Innes of Learney, Torphins ; *Secretary*, Alexander Yeats, Secretary Royal Northern Society, Aberdeen. Granted 1879.

## PREMIUMS.

- |   |                         |      |
|---|-------------------------|------|
| 1. Best Entire Colt, foaled after 1st January 1877, | Medium Silver Medal and | £3   |
| Second best,  | .                       | £2   |
| Third best,   | .                       | £1   |
| 2. Best Entire Colt, foaled after 1st January 1878, | Medium Silver Medal and | £2   |
| Second best,  | .                       | £1   |
| Third best,   | .                       | 10s. |
| 3. Best Filly, foaled after 1st January 1877,       | Medium Silver Medal and | £3   |
| Second best,  | .                       | £2   |
| Third best,   | .                       | £1   |
| 4. Best Filly, foaled after 1st January 1878,       | Medium Silver Medal and | £2   |
| Second best,  | .                       | £1   |
| Third best,   | .                       | 10s. |

In 1879.

Nos. 1 and 2 are in competition for the last year.

Nos. 3 and 4 for the first year.

### SECTION 3.—SHEEP.

*Note.*—The Society's Sheep Premiums are granted to each District for three alternate years, on condition that the District shall, in the two intermediate years, continue the Competitions by offering for the same description of stock a sum not less than one-half of that given by the Society.

At the intermediate Competitions, a Silver Medal will be placed at the disposal of the Committee, to be awarded for the best Tup belonging to a Proprietor, and of the class for which the District receives Premiums ; also four Medium Silver Medals, to be given along with the first prize in the four Classes of Sheep, belonging to Tenants, provided there are not less than two lots in each class.

The selection of the Breed is left to the local Committee. See Rule 6.

### DISTRICTS.

1. DISTRICT OF THE BADENOCH AND ROTHIERMURCHUS SOCIETY.—*Convener*, Cluny Macpherson, Cluny Castle, Kingussie; *Secretary*, Donald Stewart, Chapel Park, Kingussie. Granted 1875.
2. COUNTY OF SUTHERLAND.—*Convener*, E. C. Sutherland Walker of Skibo, Dornoch; *Secretary*, William Mitchell, Ribigill, Lairg. Granted 1875.
3. DISTRICT OF THE WEST LINTON SOCIETY.—*Convener*, W. A. Woddrop of Dalmarnock, Dolphinton; *Secretary*, A. Alexander, West Linton. Granted 1875.
4. DISTRICT OF THE NORTHERN PASTORAL CLUB.—*Convener*, Arthur Forbes of Culloden, Inverness; *Secretary*, Walter Mundell, Gollanfield, Fort George Station. Granted 1877.
5. DISTRICT OF NITHSDALE.—*Convener*, John Gilchrist Clark of Speddock, Dabton, Thornhill; *Secretary*, Wm. Austin, Thornhill. Granted 1877.

6. DISTRICT OF ATHOLE AND WEEM.—*Convener*, Archibald Butter of Fas-kally, Pitlochrie; *Secretary*, James Mitchell, Pitlochry. Granted 1879.
7. DISTRICT OF THE UNITED EAST LOTHIAN SOCIETY.—*Convener*, Sir Hew Dalrymple of North Berwick, Bart., Luchie, North Berwick; *Secretaries*, Richardson and Gemmell, Haddington. Granted 1879.
8. DISTRICT OF NETHER LORN.—*Convener*, James Bett, Breadalbane Estate Office, Kenmore, Aberfeldy; *Secretary*, Angus Whyte, Easdale, Oban. Granted 1879.
9. DISTRICT OF ARGYLL.—*Convener*, Sir John W. J. Orde of Kilmory, Bart., Lochgilphead; *Secretary*, William Hopewell, Ri-Cruin, Lochgilphead. Granted 1879.
10. ISLAND OF ARRAN.—*Convener*, James Paterson, Whitehouse, Lamlash; *Secretary*, William Tod, Glenree, Lamlash. Granted 1876.
11. DISTRICT OF THE BORDER UNION SOCIETY.—*Convener*, John Ord of Over Whitton, Nisbet, Kelso; *Secretary*, John Usher, 25 Bridge Street, Kelso. Granted 1878.
12. ISLANDS OF ISLAY, JURA, AND COLONSAY.—*Convener*, Kirkman Finlay of Dunlossit, Portaskaig, Islay; *Secretary*, Samuel M. M'Conechy, Daill, Bridgend, Islay. Granted 1878.

## PREMIUMS.

- |  |                            |
|--|----------------------------|
| 1. Best Tup belonging to a Proprietor, | The Silver Medal.          |
| 2. Best Tup above one Shear,           | Medium Silver Medal and £3 |
| Second best,                           | £1                         |
| Third best,                            | 10s.                       |
| 3. Best Shearling Tup,                 | Medium Silver Medal and £3 |
| Second best,                           | £1                         |
| Third best,                            | 10s.                       |
| 4. Best 5 Ewes, above one Shear,       | Medium Silver Medal and £3 |
| Second best,                           | £1                         |
| Third Best,                            | 10s.                       |
| 5. Best 5 Gimmers or Shearling Ewes,   | Medium Silver Medal and £3 |
| Second best,                           | £1                         |
| Third best,                            | 10s.                       |

In 1879.

Nos. 1, 2, and 3 are in competition for the last year.

Nos. 4 and 5 for the second year.

Nos. 6, 7, 8, and 9 for the first year.

Nos. 10, 11, and 12 complete for local Premiums.

## SECTION 4.—SWINE.

The Society's Swine Premiums are given for three consecutive years.

## PREMIUMS.

09

- |   |                            |
|---|----------------------------|
| 1. Best Boar belonging to a Proprietor, | The Silver Medal           |
| 2. Best Boar,                           | Medium Silver Medal and £3 |
| Second best,                            | £1                         |
| Third best,                             | 10s.                       |
| 3. Best Brood Sow,                      | Medium Silver Medal and £2 |
| Second best,                            | £1                         |
| Third best,                             | 10s.                       |

In 1879.

No application has been received.

## SECTION 5.—DAIRY PRODUCE.

The Society's Dairy Premiums are given for three consecutive years.

## PREMIUMS.

1. Best Couple of Sweet Milk Cheeses belonging to a Proprietor, . . . . . The Silver Medal
2. Best Couple of Sweet Milk Cheeses, . . . . . Medium Silver Medal and £2
- Second best, . . . . . £1
- Third best, . . . . . 10s.
3. Best Cured Butter (not less than 14 lbs.), belonging to a Proprietor, . . . . . The Silver Medal
4. Best Cured Butter (not less than 14 lbs.), . . . . . Medium Silver Medal and £2
- Second best, . . . . . £1
- Third best, . . . . . 10s.

In 1879:-

No application has been received.

## RULES OF COMPETITION.

1. The Members of the Highland and Agricultural Society connected with the respective Districts are appointed Committees for arranging the Competitions, the Convener being appointed by the Directors: five members to be a quorum.

2. The Convener of each District shall summon a meeting of Committee for the purpose of determining the time and place of Competition, the nomination of Judges, and other preliminary arrangements. The time and place (which must be within the bounds of the District, unless in reference to Stallions special permission has been obtained to the contrary), shall be publicly intimated by Conveners.

3. The Money Premiums awarded at District Competitions will be paid in January next, by precepts issued by the Directors. No payments must, therefore, be paid by the Secretary or Treasurer of any local Association.

4. Stock must be the property of the Exhibitor at the date of Entry. *No entry shall be received later than one week previous to the Show.* Entry-Money shall not exceed 2½ per cent. on the amount of the Premium to be competed for.

5. The Competitions (except for Horses) must take place between the 1st of April and the 26th of October, and are open to all parties within the District, whether members of the local Association or not.

6. The Committee shall select the breed, and specify it in the returns. In Cattle, the animals exhibited must belong to one of the following pure breeds—Short-horn, Ayrshire, Polled (Galloway, Angus, or Aberdeen), Highland. The Bulls may be of one breed, and the Heifers of another. In Sheep, the breeds must be Leicester, Cheviot, or Blackfaced.

7. Stock of an inferior description, or which does not fall within the prescribed regulations, shall not be placed for competition.

8. The Premiums shall not be divided. In Cattle, Horses, Sheep, and Swine, four lots in each Class will warrant the award of full, and two lots of half, Premiums. In Dairy Produce, eight Exhibitors in any one Class will warrant an award of full, and four of half, Premiums. A Competitor may exhibit two lots in each Class, except in Dairy Produce, where only one lot is allowed from the same farm. For the Silver Medal to Proprietors two lots are required. To authorise the award of the Medals in the intermediate year, there must be not less than two lots in each Class.

9. The Premiums for Stallions are open to General Competition. The other Money Premiums and Medium Silver Medals are restricted to Tenant Farmers and Proprietors farming the whole of their own lands, and not also Owners of land to an extent exceeding £500 per annum.



10. An animal which has gained the Highland and Agricultural Society's first Money Premium at a previous District or General Show is inadmissible in the same Class (except in the case of Stallions); and one which has gained a second Money Premium can only thereafter compete in that Class for the first.

11. A Tenant or Factor may compete with Proprietors for the Silver Medal with a Bull, a Tup, or a Boar which has gained the Highland and Agricultural Society's first Money Premium at a previous District or General Show. When there is any doubt as to whether a competitor should be ranked as a Proprietor or Tenant, the point is left to the decision of the local Committee.

12. A Bull the property of two or more Tenants may compete, although the Exhibitors may not be Joint-Tenants.

13. Bulls for which Money Premiums are awarded may be required to serve in the District at least one season; the rate of service to be fixed by the Committee, and the prizes may be withheld till the conditions are fulfilled. Premiums for the Heifers may be retained till the animals are certified to have calved.

14. Evidence must be produced that the Prize Stallions have had produce.

15. Mares must have foals at foot (except when death of foal is certified), or be entered as being in foal; in the latter case payment of the Premiums will be deferred till certificate of birth, which must be within 11 months from the date of the Show.

16. All Prize Tups must serve within the District during the season following the Competition. Ewes and Gimmers must be taken from the Exhibitor's stock, and must have been bred by him in the District; and Ewes must have reared Lambs during the season. Fleeces must not be artificially coloured.

17. Should it be proved to the satisfaction of the Committee that an animal has been entered under a false name, pedigree, or description, for the purpose of misleading the Committee or Judges as to its qualifications or properties, the case shall be reported to the Directors, and submitted by them to the first General Meeting, in order that the Exhibitor may be disqualified from again competing for the Society's Premiums, and his name, if he is a member, struck from the roll.

18. When an animal has previously been disqualified by the decision of any Agricultural Association in Great Britain or Ireland, such disqualification shall attach, if the Exhibitor, being aware of the disqualification, fail to state it and the grounds thereof, in his entry, to enable the Committee to judge of its validity.

19. Competitors must certify that the Butter and Cheese exhibited by them are average specimens of the produce of their Dairies in 1879, and that the quantity produced during the season has not been less than 1 cwt. of Butter, or 2 cwt. of Cheese.

20. It is to be distinctly understood that in no instance does any claim lie against the Highland and Agricultural Society for expenses attending a show of stock beyond the amount of the Premiums offered.

21. Blank reports will be furnished to the Conveners and Secretaries of the different Districts. These must, in all details, be completed, and lodged with the Secretary *on or before the 1st of November next*, for the approval of the Directors, against whose decisions there shall be no appeal.

22. A report of the Competitions and Premiums awarded at the *intermediate* local shows in the several Districts for Cattle and Sheep, signed by a member of the Society, must be transmitted to the Secretary *on or before the 1st of November in each year*, otherwise the Society's grants shall terminate.

23. When a grant has expired, the District cannot apply again for aid for two years.

## SECTION 6.—SPECIAL GRANTS.

- £50 and Medium Gold Medal to the Edinburgh Christmas Club.—*Secretary*, Hugh Martin, 7 Hope Street, Edinburgh. Granted 1867.
- £20 to the Ayrshire Agricultural Association, to be competed for at the Dairy Produce Show at Kilmarnock.—*Convener*, The Hon. G. R. Vernon. Auchans House, Kilmarnock; *Secretary*, James M'Murtrie, Ayr. Granted 1872.
- £3 to Rousay Society for three alternate years.—*Convener*, Colonel F. W. Trail Burroughs of Rousay, C.B., Orkney; *Secretary*, William Seatter, Saviskail, Rousay. Granted 1875.
- £3 to Westray Society for three alternate years.—*Convener and Secretary*, James Walker, Brough, Westray, Kirkwall. Granted 1876.
- £3 to Orkney Society for three consecutive years.—*Convener*, David Balfour of Balfour, Kirkwall; *Secretary*, James Johnston, jun., Orphir House, Orphir, Orkney. Granted 1877.
- £3 to Egilshay Society for three consecutive years.—*Secretary*, Thomas Garson, Grougar, Egilshay, Orkney. Granted 1879.

## SECTION 7.—MEDALS IN AID OF PREMIUMS GIVEN BY LOCAL SOCIETIES.

The Society, being anxious to co-operate with local Associations, will give a limited number of Medium Silver Medals annually to Societies not on the list of Cattle or Sheep Premiums, in addition to the Money Premiums awarded in the District for—

1. Best Bull, Cow, Heifer, or Ox.
2. Best Stallion, Mare, or Gelding.
3. Best Tup, or Pen of Ewes or Wethers.
4. Best Boar, Sow, or Pig.
5. Best Coops of Poultry.
6. Best sample of any variety of Wool.
7. Best sample of any variety of Seeds.
8. Best managed Farm.
9. Best managed Green Crop.
10. Best managed Hay Crop.
11. Best managed Dairy.
12. Best Sweet Milk Cheese.
13. Best Cured Butter.
14. Best Collection of Roots.
15. Best kept Fences.
16. Male Farm Servant who has been longest in the same service, and who has proved himself most efficient in his duties, and to have invariably treated the animals under his charge with kindness.
17. Female Servant in charge of Dairy and Poultry who has been longest in the same service, and who has proved herself most efficient in her duties, and to have invariably treated the animals under her charge with kindness.
18. Best Sheep Shearer.
19. Most expert Hedge Cutter.
20. Most expert Labourer at Draining.

21. Most expert Farm-Servant at trial of Reaping Machines.
22. Best Maker of Oat Cakes.

It is left to the local Society to choose out of the foregoing list the classes for which the Medals are to be competed.  
The Medals are given for Five consecutive years.

*Aberdeenshire.*

1. DONSIDE CLUB.—*Convener*, Sir William Forbes of Craigievar, Bart., Fintray House, Aberdeen; *Secretary*, James Renny, jun., Milton of Fintray, Aberdeen. 2 Medals. Granted 1877.
2. FORMARTINE ROOT ASSOCIATION.—*Convener*, Captain Alexander C. Hunter of Tillery, Aberdeen; *Secretary*, Thomas Duguid, Mosshead, Udney. 2 Medals. Granted 1879.
3. GARIOCH TURNIP GROWING ASSOCIATION.—*Convener*, Henry Gordon of Manar, Inverurie; *Secretary*, James Stephen, Conglass, Inverurie. 2 Medals. Granted 1878.
4. INVERURIE ASSOCIATION.—*Convener*, Henry Lumsden of Pitcaple, Pitcaple; *Secretary*, James Stephen, Conglass, Inverurie. 2 Medals. Granted 1878.
5. KINELLAR HORTICULTURAL AND POULTRY ASSOCIATION.—*Convener*, Colonel William Ross King of Tertowie, Kinellar, Aberdeen; *Secretary*, Alexander Taylor, Fichnie, Blackburn, Aberdeen. 2 Medals. Granted 1879.
6. LEOCHEL-CUSHNIE SOCIETY.—*Convener*, Sir William Forbes of Craigievar, Bart., Fintray House, Aberdeen; *Secretary*, Hary Shaw, Bogfern, Tarland. 3 Medals. Granted 1879.
7. NEW ABERDOUR SOCIETY.—*Convener*, James Cruickshank, Ladysford, Fraserburgh; *Secretary*, Alexander Rae, Killyquharn, Aberdour, Fraserburgh. 5 Medals. Granted 1878.
8. VALE OF ALFORD TURNIP ASSOCIATION.—*Convener*, R. O. Farquharson of Houghton, Alford, N.B.; *Secretary*, John Reid, Bents, Alford. 2 Medals. Granted 1875.

*Argyllshire.*

9. LISMORE SOCIETY.—*Convener*, Hon. Geo. Jas. Elphinstone, Achnaran, Lismore, Appin; *Secretary*, Dougal M'Intyre, Frackersaig, Lismore. 2 Medals. Granted 1878.
10. LOCHBUY SOCIETY.—*Convener*, M. G. MacLaine of Lochbuy, Oban; *Secretary*, Donald M'Phail, Cameron Farm, Mull, Oban. 2 Medals. Granted 1876. (Two years in abeyance.)

*Argshire.*

11. ARDROSSAN SOCIETY.—*Convener*, D. Cuninghame, Chapelton, Ardrossan; *Secretary*, James Campbell, Writer, Saltcoats. 2 Medals. Granted 1877.
12. CUMNOCK SOCIETY.—*Convener*, James Murray, jun., Dumfries Arms Hotel, Cumnock; *Secretary*, John Hayman, Dumfries House Mains, Cumnock. 2 Medals. Granted 1877.

13. DALRY SOCIETY.—*Convener*, Andrew Allan, Munnoch, Dalry; *Secretary*, Robert Craig, Flashwood, Dalry. 4 Medals. Granted 1879.
14. DALRYMPLE SOCIETY.—*Convener*, Alex. Smith, Barnford, Dalrymple, Ayr; *Secretary*, William Clark, Schoolhouse, Dalrymple, Ayr. 2 Medals. Granted 1876.
15. DARVEL HORTICULTURAL SOCIETY.—*Convener*, John Nisbet, Longgreen, Newmilns; *Secretary*, Peter Gorrie, Public School, Darvel, Kilmarnock. 2 Medals. Granted 1876.
16. DUNDONALD SOCIETY.—*Convener*, The Hon. G. R. Vernon, Auchans House, Kilmarnock; *Secretary*, John Caldwell, Bogside, Dundonald. 3 Medals. Granted 1878.
17. GALSTON SOCIETY.—*Convener*, Alex. D. Tait of Milrig, Kilmarnock; *Secretary*, Robert Hendrie, Drumdroch, Galston. 3 Medals. Granted 1877.
18. GIRVAN DISTRICT SOCIETY.—*Convener*, Captain Hamilton of Pinmore; *Secretary*, Robert Lamb, Royal Bank, Girvan. 2 Medals. Granted 1875.
19. IRVINE SOCIETY.—*Convener*, James Stewart, Heathfield, Irvine; *Secretary*, A. C. M'Jannet, Writer, Irvine. 2 Medals. Granted 1875.
20. LOUDOUN AND LANFINE SOCIETY.—*Convener*, Robert Mackie, Loudoun Cottage, Galston. *Secretary*, Andrew Cameron, Newmilns. 4 Medals. Granted 1879.
21. SORN PARISH ASSOCIATION.—*Convener*, Charles Howatson of Dornel, Daldorch House, Mauchline; *Secretary*, Thomas Aitken, St Germain Street, Catrine, Mauchline. 4 Medals. Granted 1876.
22. SORN AND DALGAIN SOCIETY.—*Convener*, Graham Somervell of Sorn, Mauchline; *Secretary*, Robert Brown, Dalgain, Sorn, Mauchline. 5 Medals. Granted 1879.
23. STEWARTON SOCIETY.—*Convener* and *Secretary*, John Lindsay, Thornhill, Stewarton. 2 Medals. Granted 1877.
24. TARBOLTON SOCIETY.—*Convener*, W. S. Cooper, yr. of Failford, 1 Alva Street, Edinburgh; *Secretary*, Wm. Candlish, Middlemuir, Tarbolton. 2 Medals. Granted 1878.
25. WEST KILBRIDE SOCIETY.—*Convener*, John Crawford, Milstonford, West Kilbride; *Secretary*, George Harvey, Gill, West Kilbride. 5 Medals. Granted 1879.

*Banffshire.*

26. SPEY, AVON, AND FIDDOCHSIDE SOCIETY.—*Convener*, Sir George Macpherson Grant of Ballindalloch, Bart.; *Secretary*, Wm. Robertson, Burnside, Ballindalloch. 4 Medals. Granted 1877.

*Berwickshire.*

27. LAMMERMOOR PASTORAL SOCIETY.—*Convener*, John Turnbull of Abbey St Bathans, 49 George Square, Edinburgh; *Secretary*, John Caverhill, Greenburn, Ayton. 2 Medals. Granted 1875.

*Buteshire.*

28. BUTE SOCIETY.—*Convener*, Henry Stuart, Montford, Rothesay; *Secretary*, W. A. Wilson, County Office, Rothesay. 3 Medals. Granted 1878.

*Dumbartonshire.*

29. CUMBERNAULD SOCIETY.—*Convener*, John Wm. Burns of Kilmahew, Dumbarton; *Secretary*, George Anderson, Lochgreen House, Bonnybridge. 3 Medals. Granted 1876.
30. WESTERN DISTRICT OF DUMBARTONSHIRE.—*Convener*, Sir James Colquhoun of Luss, Bart., Ross-dhu, Luss; *Secretary*, Major James Colquhoun, Ben Cruach Lodge, Arroquhar. 2 Medals. Granted 1879.

*Dumfriesshire.*

31. ANNANDALE FARMERS' SOCIETY.—*Convener*, Christopher Johnstone, Dinwoodie Lodge, Lockerbie; *Secretary*, John Baird, jun., Lockerbie. 4 Medals. Granted 1875.
32. SANQUHAR SOCIETY.—*Convener*, John Gilchrist Clark of Speddoch, Dabton, Thornhill; *Secretary*, W. O. Macqueen, Sanquhar. 5 Medals. Granted 1878.

*Edinburghshire.*

33. WESTERN DISTRICT OF MID-LOTHIAN ASSOCIATION.—*Convener*, Captain Tod of Howden, Mid-Calder; *Secretary*, James H. Steuart, Selms, Kirknewton. 4 Medals. Granted 1878.

*Fifeshire.*

34. WINDYGATES SOCIETY.—*Convener*, John Gilmour of Lundin, Leven; *Secretary*, J. F. Thom, Wellsgreen, East Wemyss. 2 Medals. Granted 1875.

*Inverness-shire.*

35. GLEN URQUHART SOCIETY.—*Convener*, The Earl of Seafield; *Secretary*, Major Grant, Drumbuie, Drumnadrochit. 3 Medals. Granted 1877.
36. NORTHERN COUNTIES FAT SHOW CLUB.—*Convener*, Lord Lovat, Beaufort Castle, Beaul; *Secretary*, John Cran, Kirkton, Inverness. 6 Medals. Granted 1878.
37. STRATHGLASS SOCIETY.—*Convener*, Lord Lovat, Beaufort Castle, Beaul; *Secretary*, James Fraser, Mauld, Beaul. 2 Medals. Granted 1876.

*Kincardineshire.*

38. FETTERCAIRN CLUB.—*Convener*, Col. M'Inroy of The Burn, Brechin; *Secretary*, William Crichton, Castleton of Kincardine, Laurence-kirk. 3 Medals. Granted 1878.

*Lanarkshire.*

39. CADDER SOCIETY.—*Convener*, Alexander Campbell, Crosshill, Bishopbriggs; *Secretary*, John Marshall, 93 West Regent Street, Glasgow. 2 Medals. Granted 1877.
40. CARNWATH SOCIETY.—*Convener*, Hector F. M'Lean, Carnwath House; *Secretary*, George Russell, Carnwath. 4 Medals. Granted 1878.
41. CARMICHAEL SOCIETY.—*Convener*, Sir Windham C. J. Carmichael Anstruther, Bart., M.P., Carmichael House, Thankerton; *Secretary*, William Bell, Sherifflats, Thankerton. 2 Medals. Granted 1877.
42. STONEHOUSE ASSOCIATION.—*Convener*, J. P. Alston of Muirburn, Glassford; *Secretary*, Wm. Wallace, Stonehouse, Hamilton. 2 Medals. Granted 1875.

*Orkney.*

43. ROUSAY SOCIETY.—*Convener*, Col. Burroughs of Rousay, Orkney; *Secretary*, Wm. Seatter, Saviskaill, Rousay. 2 Medals. Granted 1878.

*Perthshire.*

44. CULROSS SOCIETY.—*Convener*, L. Dalgleish of Pitfirrane; *Secretary*, Wm. Clark, Pitfirrane Estate Office, Dunfermline. 3 Medals. Granted 1879.
45. MIDDLE DISTRICT OF ATHOLE AND TULLYMET.—*Convener*, Wm. Dick of Tullymet, Ballinluig; *Secretary*, John Grant, Craigbea, Ballinluig. 1 Medal. Granted 1878.

*Renfrewshire.*

46. EAGLESHAM SOCIETY.—*Convener*, Andrew Pollok, Moorhouse, Eaglesham; *Secretary*, Wm. Dykes, Polnoon Mains, Eaglesham. 1 Medal. Granted 1878.
47. NEILSTON SOCIETY.—*Convener*, Allan Kirkwood, Killermont, Maryhill, Glasgow; *Secretary*, A. Robertson Ferguson, Clydesdale Bank, Neilston. 2 Medals. Granted 1876.

*Ross-shire.*

48. BLACK ISLE SOCIETY.—*Convener*, James Fletcher of Roschaugh, Avoch; *Secretary*, James R. Mitchell, Drynie, Inverness. 3 Medals. Granted 1879.
49. WESTER ROSS CLUB.—*Convener*, Sir Kenneth S. Mackenzie of Gairloch, Bart., Conan House, Dingwall; *Secretary*, David Ross, Dingwall. 4 Medals. Granted 1877.

*Stirlingshire.*

50. BUCKLYVIE AND GARTMORE ASSOCIATION.—*Convener*, W. A. MacLachlan of Auchentroig, Balfon; *Secretary*, Alexander Dun, Keadowrie, Buchlyvie. 2 Medals. Granted 1875.
51. CAMPSIE, STRATHBLANE, AND BALDERNOCK SOCIETY.—*Convener*, Sir Charles E. F. Stirling of Glorat, Bart., Milton of Campsie; *Secretary*, James Slimon, Balcarrach, Campsie. 2 Medals. Granted 1879.
52. GARGUNNOCK SOCIETY.—*Convener*, Sir Henry J. Seton Steuart of Allanton, Bart., Stirling; *Secretary*, Thomas Leishman, 35 Forth Place, Stirling. 2 Medals. Granted 1877.

The Medals are given for Five consecutive years.

Applications from other Districts must be lodged with the Secretary of the Society by 1st November next.

## RULES OF COMPETITION.

1. All Competitions must be at the instance of a local Society.
2. The classes for which Medals are granted must be in accordance with the list at page 39. The Committee shall select the classes, and specify them in the return.
3. In each District the Convener (who must be a Member of the Society appointed by the Directors) shall fix the time and place of Competition, appoint the Judges, and make all other necessary arrangements, in concurrence with the other Members of the Society, and the local Association of the District.

4. The Money Premiums given in the District must be £2 for each Medal claimed.

5. The Medal for Sheep Shearing shall not be awarded unless there are three competitors, and it shall always accompany the highest money premium. There must not be fewer than two competitors in all the classes.

6. Blank reports will be furnished to all the Conveners of the different Districts. These must, in all details, be completed and lodged with the Secretary *on or before the 1st of November next*, with the exception of green crop reports, which must be forwarded on or before the 20th of December, for the approval of the Directors, against whose decisions there shall be no appeal.

7. When a grant has expired, the District cannot apply again for aid for two years.

### SECTION 8.—PLOUGHING COMPETITIONS.

The Minor Silver Medal will be given to the winner of the first or highest Premium at Ploughing Competitions, provided a Report in the following terms is made to the Secretary, within one month of the Competition, by a Member of the Society :—

#### FORM OF REPORT.

I, \_\_\_\_\_ of \_\_\_\_\_ Member of the Highland and  
Agricultural Society, hereby certify that I attended the Ploughing  
Match of the \_\_\_\_\_ Association at \_\_\_\_\_ in the county  
of \_\_\_\_\_ on the \_\_\_\_\_ when \_\_\_\_\_ ploughs  
competed ; \_\_\_\_\_ of land was assigned to each, and \_\_\_\_\_ hours  
were allowed for the execution of the work. The sum of £  
\_\_\_\_\_ was awarded in the following proportions, viz. :—

[Here enumerate the names and designations of successful Competitors.]

#### RULES OF COMPETITION.

1. All Matches must be at the instance of a local Society or Ploughing Association, and no Match at the instance of an individual, or confined to the tenants of one estate, will be recognised.

2. The title of such Society or Association, together with the name and address of the Secretary, must be registered with the Secretary of the Highland and Agricultural Society, 3 George IV. Bridge, Edinburgh.

3. Not more than one Match in the same season can take place within the bounds of the same Society or Association.

4. All reports must be lodged within one month of the date of the Match, and certified by a Member of the Highland and Agricultural Society who was present at it.

5. A Member can only report one Match, and a Ploughman cannot carry more than three Medals in the same season.

6. To warrant the grant of the Medal, there must have been twelve ploughs in Competition, and Three Pounds awarded in Premiums by the local Society. The Medal to be given to the winner of the first or highest prize.

7. Ploughmen shall not be allowed any assistance, and their work must not be set up nor touched by others ; on land of average tenacity the ploughing should be at the rate of an imperial acre in ten hours, and attention should be given to the firmness and sufficiency of the work below, more than to its neatness above the surface.

SECTION 9.—COTTAGES AND GARDENS.

The following Premiums are offered for Competition in the Parishes after mentioned.

The Premiums for Cottages and Gardens are given for five consecutive years.

1. PREMIUMS FOR BEST KEPT COTTAGES AND GARDENS.

1. Best kept Cottage—One Pound; and where there are four Competitors—Minor Silver Medal.  
Second best—Ten Shillings.  
Third best—Minor Silver Medal.
2. Best kept Cottage Garden—One Pound; and where there are four Competitors—Minor Silver Medal.  
Second best—Ten Shillings.  
Third best—Minor Silver Medal.

*Aberdeenshire.*

1. METHLIC HORTICULTURAL SOCIETY.—*Convener*, John Grant, Banker, Methlic; *Secretary*, James Allan, Methlic. Granted 1877.

*Edinburghshire.*

2. CALDERS UNION HORTICULTURAL SOCIETY.—*Convener*, R. G. Smith, Georgeville, Mid-Calder; *Secretary*, James B. Smith, Greenloan Cottage, Kirknewton. Granted 1878.

*Fifeshire.*

3. NEWBURGH GARDENING SOCIETY.—*Convener*, John Lyell, Newburgh-on-Tay; *Secretaries*, George Anderson and Angus Cameron, Newburgh-on-Tay. Granted 1874. (One year in abeyance.)
4. NORTH OF FIFE HORTICULTURAL SOCIETY.—*Convener*, John Mitchell, Fliskmillan, Cupar Fife; *Secretary*, John Geddes, Teacher, Rathillet, Cupar Fife. Granted 1878.

*Kincardineshire.*

5. MEARNS AMATEUR HORTICULTURAL SOCIETY.—*Convener*, William Alexander, Bent, Laurencekirk; *Secretary*, Herbert Grimes, Laurencekirk. Granted 1878.

*Linlithgowshire.*

6. DALMENY AND QUEENSFERRY HORTICULTURAL SOCIETY.—*Convener*, Peter Glendinning, Leuchold, Dalmeny Park, Edinburgh; *Secretary*, John Allan, Dalmeny Park, Edinburgh. Granted 1879.

*Perthshire.*

7. BRACO HORTICULTURAL SOCIETY.—*Convener*, John Kinross, Gannochan, Braco; *Secretary*, George Dingwall, Ardoch Gardens, Braco. Granted 1878.



8. **FORGANDENNY.**—*Convener*, T. T. Oliphant of Rossie, Bridge of Earn ; *Secretary*, A. M. Nicholson, Craigbank, Forgandenny, Bridge of Earn. Granted 1877.
9. **MUTHILL HORTICULTURAL SOCIETY.**—*Convener*, Henry Curr, Pitkellony, Muthill ; *Secretary*, Malcolm Finlayson, Pitkellony Office, Muthill. Granted 1877.
- Stirlingshire.*
10. **KILLEARN SOCIETY.**—*Convener*, David Edmond of Ballochruin, Balfron ; *Secretary*, Robert King, Boquhan, Killearn. Granted 1879.
- Sutherlandshire.*
11. **SKIBO ASSOCIATION.**—*Convener*, Evan C. Sutherland Walker of Skibo, Skibo Castle, Sutherland ; *Secretary*, John Grant, Factor, Skibo Castle, Sutherland. Granted 1879.
- Wigtownshire.*
12. **INCH.**—*Convener*, Earl of Stair, K.T., Lochinch, Castle Kennedy, Wigtownshire ; *Secretary*, . Granted 1879.

#### RULES OF COMPETITION.

1. Competitions may take place in the different parishes for Cottages and Gardens, or for either separately.

2. The occupiers of Lodges at Gentlemen's Approach Gates and Gardener's Houses are excluded, as well as others whom the Committee consider, from their position, not to be entitled to compete. The inspection must be completed by the 1st of October. In making the inspection, the *Conveners* may take the assistance of any competent judges.

3. It is left to the Committee of the district to regulate the maximum annual rent of the Cottages, which may, with the garden, be from £5 to £7.

4. A person who has gained the highest Premium cannot compete again, but will be entitled to a Medal if certified by the Committee to be equal in merit to the first on the list of Competitors.

5. If the Cottage is occupied by the proprietor, the roof must be in good repair ; if the roof is thatch, it must be in good repair, though in the occupation of a tenant. The interior and external conveniences must be clean and orderly—the windows must be free of broken glass, clean, and affording the means of ventilation. Dunghills, and all other nuisances, must be removed from the front and gables. In awarding the Cottage Premiums, preference will be given to Competitors who, in addition to the above requisites, have displayed the greatest taste in ornamenting the exterior of their houses, and the ground in front and at the gables.

6. In estimating the claims for the Garden Premiums, the judges should have in view:—The sufficiency and neatness of the fences and walks ; the cleanness of the ground ; the quality and choice of the crops ; and the general productiveness of the garden.

7. Reports, stating the number of Competitors, the names of successful parties, and the nature of the exertions which have been made by them, must be transmitted by the *Conveners* to the *Secretary* on or before the 1st November next.

8. When a grant has expired, the District cannot apply again for aid for two years.

Parishes desirous of these Premiums must lodge applications with the *Secretary* on or before the 1st November next.

## 2. MEDALS FOR COTTAGES AND GARDENS OR GARDEN PRODUCE.

The Society will issue annually two Medium Silver Medals to a limited number of local Associations or individuals, who at their own expense establish Premiums for Cottages or Gardens under £15 of Rent. The Medals may be awarded for best kept Cottage, and best kept Garden or Flower Plot, or Garden Produce.

Local Associations or individuals desirous of these Medals, must lodge applications with the Secretary *on or before the 1st November next*. The Medals are given for five consecutive years.

*Ayrshire.*

1. STEWARTON FARMER SOCIETY.—*Convener* and *Secretary*, John Lindsay, Avenue Square, Stewarton. Granted 1875.

*Dumbartonshire.*

2. VALE OF LEVEN AND DUMBARTON HORTICULTURAL SOCIETY.—*Convener*, J. M. Martin, yr. of Auchendennan, Bloomhill, Cardross; *Secretary*, Robert Warnock, 88 Bridge Street, Alexandria. Granted 1879.

*Fifeshire.*

3. AUCHTERMUCHTY AND STRATHMIGLO HORTICULTURAL SOCIETY.—*Convener*, R. Cathcart of Pitcarlie; *Secretary*, John Clark, Auchtermuchty. Granted 1875.
4. DYSART HORTICULTURAL SOCIETY.—*Convener*, James T. Oswald of Dunnikier, Kirkcaldy; *Secretary*, John Watson, Orchard House, Dysart. Granted 1877.

*Inverness-shire.*

5. BADENOCH AND ROTHMURCHUS HORTICULTURAL SOCIETY.—*Convener*, Cluny Macpherson, Cluny Castle, Kingussie; *Secretary*, William Forrest, Kingussie. Granted 1876.

*Kincardineshire.*

6. FORDOUN, GLENBERVIE, AND ARBUTHNOTT HORTICULTURAL SOCIETY.—*Convener*, Lord Inverurie, Inglismaldie Castle, Laurencekirk; *Secretary*, Alexander Cruickshank, gardener, Glenbervie, Fordoun. Granted 1876.

*Lanarkshire.*

7. ALBERT GARDENS ASSOCIATION, GLASGOW.—*Secretary*, George D. Miller 16 Mathieson Street, Glasgow. Granted 1877.
8. BOTHWELL HORTICULTURAL SOCIETY.—*Convener*, Dr Bruce Goff, Woodlea, Bothwell; *Secretary*, Robert Horne, Schoolhouse, Bothwell. Granted 1876.
9. NEW VICTORIA GARDENS, LILY BANK ROAD, GLASGOW.—*Secretary*, S. H. Scobbie, 54 M'Kinlay Street, Glasgow. Granted 1878. (One year in abeyance.)
10. SARACEN PUBLIC GARDENS, POSSIL PARK, GLASGOW.—*Convener*, Walter Macfarlane, 22 Park Circus, Glasgow; *Secretary*, P. Donaldson, 347 Saracen Street, Possil Park, Glasgow. Granted 1879.

*Perthshire.*

11. BREADALBANE, WEEM, STRATHTAY, AND GRANDTULLY HORTICULTURAL SOCIETY.—*Convener*, E. O. Douglas of Killehassie, Aberfeldy; *Joint-Secretaries*, D. Macdiarmid, Bank of Scotland, Aberfeldy, and Peter Haggart, Keltneyburn, Aberfeldy. Granted 1879.
12. LOGIEALMOND AND GLENALMOND HORTICULTURAL SOCIETY.—*Convener*, Græme R. Mercer of Gorthie, Glen Tulchen House, Perth; *Secretary*, Daniel Paton, Woodburn Cottage, Harrietfield, Perth. Granted 1878.

## REGULATIONS.

1. Competitions may take place in the different districts for Cottages and Gardens, or for either separately.
2. The annual value of each Cottage, with the ground occupied in the parish by a Competitor, must not exceed £15.
3. If Competition takes place for Garden Produce in place of the best kept Garden, such produce must be *bona fide* grown in the Exhibitor's Garden, and he will not be allowed to make up a collection from any other Garden.
4. Blank reports will be furnished to the Conveners and Secretaries of the different Districts. These must, in all details, be completed and lodged with the Secretary *on or before the 1st November next*, for the approval of the Directors, against whose decisions there shall be no appeal.
5. When a grant has expired, the District cannot apply again for aid for two years.

## 3. IMPROVING EXISTING COTTAGES.

To the Proprietor in Scotland who shall report the Improvement of the greatest number of Cottages during the years 1876, 1877, and 1878—The Gold Medal.

## 4. BUILDING NEW COTTAGES.

To the Proprietor in Scotland who shall report the Erection of the greatest number of approved Cottages during the years 1875, 1876, 1877, and 1878—The Gold Medal.

## RULES OF COMPETITION.

1. Claims for the Premiums Nos. 3 and 4 must be lodged with the Secretary on or before the 1st of October next, to allow an inspection to be made of the different Cottages. The inspection will be conducted by a Committee of the Society's Members, and Reports must be transmitted to the Secretary *on or before the 1st November next*.
2. The annual value of the Cottage or Cottages separately, with the garden ground, must not exceed £5.
3. In estimating the claims of the Competitors, the following points will be kept in view:—The external appearance of the Cottages; their internal accommodation; the arrangements of the out-houses; the means of drainage and ventilation; and the expense of the building or of the alteration, compared with its durability and accommodation. When the Cottages of one Competitor are superior in style and comfort to those of another, though not so numerous, the Inspectors will give them preference, provided they amount at least to three, and have been erected at a moderate expense.
4. Parties competing will forward to the Society Plans, Specifications, and Estimates, of which, and of all information sent therewith, copies may be taken for publication, if the Society shall see fit, and the originals returned to the parties within six months, if desired.

# GENERAL SHOW OF STOCK AND IMPLEMENTS

AT

## P E R T H

ON 29TH, 30TH, AND 31ST JULY, AND 1ST AUGUST 1879.

---

President of the Society.

THE MOST NOBLE THE MARQUIS OF LOTHIAN, K.T.

Chairman of the Local Committee.

SIR ALEXANDER MUIR MACKENZIE OF DELVINE, BART.

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The District connected with the Show comprises the Eastern Division of Perthshire, Western Division of Forfarshire, Fifeshire, and Kinross-shire.

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### REGULATIONS.

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#### GENERAL CONDITIONS.

1. The Competition is open to Exhibitors from all parts of the United Kingdom. New Members may be proposed for election at the General Meeting in June, and if on the list of Candidates may enter at Members' rates; but all entries must be made on or before 6th June for implements, and 13th of June for stock and other entries.\*

2. Every Lot must be intimated by a Certificate of Entry, lodged with the Secretary *not later than the 6th of June for Implements, and 13th of June for Stock and other Entries.* Printed forms will be issued on application to the Secretary, No. 3 George IV. Bridge, Edinburgh. Admission Orders will be forwarded to Exhibitors, by post, previous to the Show.

3. Protests against the awards of the Judges must be lodged with the Secretary not later than 9 A.M. on Wednesday, 30th July, and parties must be in attendance at the Committee-Room, in the Show-Yard, at 10 A.M. that day, when protests will be disposed of.

4. Protests lodged for causes which the protestor produces no good evidence to substantiate, will render him liable to be reported to the Board of Directors, with the view, if they see reason, to his being prohibited from again entering stock for a General Show.

5. The Society shall not be liable for any loss or damage which Stock, Poultry, Dairy Produce, Implements, or other articles may sustain at the Show, or in transit.

6. The decisions of the Board of Directors are final in all questions respecting Premiums and all other matters connected with the Show, and it shall not be competent for any Exhibitor to appeal against such decisions to, nor seek redress in respect of them from, any other tribunal.

7. Covered Booths for Offices (9 feet by 9 feet), purely for business, not for exhibition of goods, can be had from £3, 10s. to Members, and £5 to Non-Members, according to size. Intimation to be made to the Secretary before the 1st of July.

8. No lights allowed in the Yard at night, and Smoking is strictly prohibited within the sheds. Those infringing this Rule will be fined 10s.

\* According to the Charter, a Member who homologates his Election by paying his first subscription cannot retire until he has paid, in annual subscriptions or otherwise, an amount equivalent to a life composition.

9. As the command of water in the Yard is limited, it is particularly requested that waste be avoided.

10. When the ground requires to be broken, the turf must be carefully lifted and laid aside, and the surface must be restored to the satisfaction of the Society, and at the expense of the Exhibitor.

11. All persons admitted into the Show-Yard shall be subject to the Rules and Orders of the Directors.

12. The violation by an Exhibitor of any one of the Regulations will involve the forfeiture of all Premiums awarded to him.

13. Railway Passes for unsold stock and implements must be applied for at the Committee Room in the Yard between 9 and 11 o'clock on the forenoon of Thursday and Friday.

14. The Show terminates at 5 p.m. on Friday, 1st August, and no animals or article can be withdrawn before that hour. Stock and Implements may remain in the Yard till Saturday afternoon.

15. The Premiums awarded will be paid in November 1879, and, with the exception of the Tweeddale and Silver Medals, may be taken either in money or in plate.

### STOCK AND POULTRY.

16. Stock and Poultry to be entered with the Secretary on or before the 13th day of June. Received in the Yard on Monday, 28th, and till 10 a.m. on Tuesday, 29th July. Judged at 11 a.m. on Tuesday. Exhibited on Tuesday, Wednesday, Thursday, and Friday, 29th, 30th and 31st July, and 1st August.

17. All animals must be entered in the sections applicable to their ages, and cannot be withdrawn after entry. No animal to be allowed to compete in more than one section, except Horses in Sections 13, 14, and 15, which may be also entered in Section 16.

18. Shorthorn animals must be entered in the herd book, or the exhibitor must produce a certificate from the Council of the Shorthorn Society that his animal is eligible to be entered therein.

19. Stock must be *bona fide the property and in the possession of the Exhibitor* from the 13th June (the last day of Entry).

20. The schedule of Entry must be filled up so far as within the knowledge of the Exhibitor.

21. The name of the Breeder, if known, must be given, and if the Breeder is not known a declaration to that effect, signed by the Exhibitor, must be sent along with the Schedule, and no pedigree will be entered in the Catalogue when the Breeder is unknown.

22. Should it be proved to the satisfaction of the Directors that an animal has been entered under a false name, pedigree, or description, for the purpose of misleading the Directors or Judges as to its qualification or properties, the case shall be reported to the first General Meeting, in order that the Exhibitor shall be disqualified from again competing at the Society's Shows, and his name, if he be a Member, struck from the roll.

23. When an animal has previously been disqualified by the decision of any Agricultural Association in Great Britain or Ireland, such disqualification shall attach, if the Exhibitor, being aware of the disqualification, fail to state it, and the grounds thereof, in his entry, to enable the Directors to judge of its validity.

24. Breeding Stock must not be shown in an improper state of fatness, and the Judges will be prohibited from awarding Premiums to overfed animals.

25. The Competition of Stallions for agricultural purposes is held in spring.

26. No animal shall bear on its rug, harness, pail, or other fittings, any initial, crest, or mark of ownership, nor be distinguished otherwise than by the number indicating its place in the Catalogue.

27. Any artificial contrivance or device of any description found on an animal either for preventing the flow of milk or for any other purpose, will disqualify that animal from being awarded a Premium, and the Owner of

said animal will be prohibited from again entering stock for any of the Society's General Shows.

28. No animal to be taken out of its stall after 10 A.M. during the Show, except by order of the Judges, or with permission of the Secretary. Those infringing this Rule will be fined 10s.

29. Aged Bulls and Stallions must have had produce, and, along with Two-year-old Bulls and Three-year-old Colts, have served within the year of the Show.

30. All Cows must have had calves previous to the Show, and when exhibited, they must either be in milk or in calf; if in milk, birth must have been within 9 months of the Show; if in calf, birth must be certified within 9 months after the Show. In the case of Ayrshire Heifers in Calf, calved before 1st January 1877, birth must be certified within 9 months after the Show.

31. All Milch Cows must have been milked dry the evening previous to being judged, and they must, while within the Show-Yard, be milked morning and evening. The Judges will be instructed to withhold the prizes from any animals overstrained or suffering from want of being milked.

32. Two-year-old Heifers—of the Short-horn and Polled Breeds—must be in calf when exhibited, and the premiums will be withheld till birth be certified, which must be within 9 months after the Show. Animals of any age that have had a calf must be shown as Cows.

33. Mares in Sections 5 and 12 must have produced foals after 1st January 1879, and foals must be at foot, except when death can be proved. Mares in Section 6 must be in foal, and awards will be suspended till birth is certified, which must be within 11 months from the date of the Show.

34. With reference to regulations 30 and 32, birth of at least a seven months' calf must be certified; and in regard to regulation 33, birth of at least a nine months' foal.

35. Horses entered as suitable for Field are expected to be jumped in the Horse Ring, but this is not compulsory except when the animals are being judged, and then only if required by the Judges. Those entered for leaping must be jumped in the Horse-Ring at each Parade during the Show.

36. The inspection of Horses as to soundness is left entirely to the Judges, who may consult the Society's Veterinary Surgeon if they deem it expedient.

37. No protests on veterinary grounds will be received.

38. All Ewes must have reared Lambs in 1879; and Ewes in Sections 4 and 9 (Blackfaced and Cheviot) must be in milk, and have their Lambs at foot. Fleeces must not be artificially coloured.

39. Sows must have reared pigs in 1879, or be in pig; and Pigs must belong to the same litter, and be uncut.

40. In Poultry the Aged Birds must have been hatched previous to, and Cockerels and Pullets in, 1879. No dubbing is allowed in the male birds of the Game Breeds. In the sections for Ducks, Turkeys, Geese, and Hens and Pullets of the Game and Malay Breeds, the lots to consist of one bird only.

41. An animal which has gained a first premium at a General Show of the Society cannot again compete in the same section.

42. The Yard will be open for Stock on Monday, 28th July, and between Six and Ten o'clock on the morning of Tuesday, 29th, after which hour no Stock can be admitted.

43. Bulls must be secured by nose rings, with chains or ropes attached, or with strong halters and double ropes, with a man on each side.

44. Servants in charge of Stock must bring their own buckets or pails, and a piece of rope to carry their forage.

45. Strong loose boxes will be provided for Stallions and three and two-year old Entire Colts, in which they can remain all night, and loose boxes for Mares with foal at foot; closed-in stables for all the other horses, and covered accommodation for the whole of the other stock. Night accommodation will be provided for Attendants on Stock, and those requiring the same must make

application when they return their Entry Schedules, and remit the charge along with their stall rent.

46. Straw, hay, grass, and tares will be provided free by the Society during the four days of the Show; other kinds of food will be supplied at fixed prices in the forage yard. Any Servant removing bedding from an adjoining stall will be fined in double the amount taken. Exhibitors may fetch their own cake or corn to the Yard, but not grass, tares, hay, nor straw. Coops, food, and attendance for Poultry will be found by the Society.

47. Cattle, Sheep, Swine, or Poultry cannot be removed from the Yard till 5 p.m. on Friday, 1st August, except on certificate by the Veterinary Surgeon employed by the Directors.

48. Horses may be withdrawn at 6 o'clock each evening on a deposit of £2 for each animal, which shall be forfeited if the animal is not brought back. They must return at half-past 7 o'clock the following morning, and those not in before 8 will forfeit 10s. Horse passes to be applied for at the Committee Rooms between 5 and 6 p.m. on Tuesday, and the deposit will be returned between 12.30 and 2.30 on Friday.

49. When the Stock is leaving the Yard, no animal is to be moved till ordered by those in charge of clearing the Yard. Those transgressing this Rule will be detained till all the other Stock is removed.

### JUDGING STOCK AND POULTRY.

50. On Tuesday, 29th July, Exhibitors, and all others except Servants in charge of Stock, must leave the Yard at 10 a.m.

51. The Judges will commence their inspection at 11 a.m., when the public will be admitted. The space reserved for the Judges will be enclosed by ropes, and no encroachment will be permitted. In no case shall a Premium be awarded unless the Judges deem the animals to have sufficient merit; and where only one or two lots are presented in a section, and the Judges consider them unworthy of the premiums offered, it shall be in their power to award a lower prize, or to suggest the removal of any lot which appears to them unworthy of being placed in the Yard.

52. In addition to the Premiums, the Judges are authorised to award three Commendations in each section (except Poultry, where only two prizes are to be awarded) if the entries are numerous and the animals of sufficient merit. These Commendations to consist of—Very Highly Commended, Highly Commended, and Commended.

53. The animals in Sections 22 and 23 (Ayrshire Breed) which have not calved before the Show will be judged along with Cows in Calf, and those in Section 23 which have calved before the Show will be judged along with Cows in Milk in section 22.

54. Two Members of Committee will attend each Section of the Judges. It will be their duty to see that no obstruction is offered to them, and that the space reserved for them is not encroached on; to communicate to the Secretary any question that may arise for the consideration of the Committee; to complete their reports; and to ticket the prize animals.

55. It shall not be competent for any Exhibitor, nor for his Factor or Land-Steward, to act as a Judge or Attending Member in any class in which he is competing; and no Exhibitor shall remain in charge of any lot, whether belonging to himself or another, while the Judges are at work in the Yard.

### WOOL.

56. Wool [to be entered with the Secretary on or before 13th June. Received in the Showyard on Monday 28th July, and till 10 a.m. on Tuesday 29th July. Judged at 11 a.m. on Tuesday. Exhibited Tuesday, Wednesday, Thursday, and Friday 29th, 30th, and 31st July, and 1st August.

57. All the fleeces must be white and folded with the outside out. They

must be shown as *clipped off the Sheep*, and the Blackfaced fleeces must be unwashed.

### DAIRY PRODUCE.

58. Dairy Produce to be entered with the Secretary on or before 13th June. Received in the Showyard on Monday, 28th July, and till 10 A.M. on Tuesday 29th July. Judged at 11 A.M. on Tuesday. Exhibited Tuesday, Wednesday, Thursday, and Friday 29th, 30th and 31st July, and 1st August.

59. Dairy Produce must have been made on the Exhibitor's farm in 1879. At least 1 cwt. of the variety of Butter, and 2 cwt. of that of the Cheese exhibited, must have been made during the season. The lots must be fair samples, and untasted. No lot can be removed from the Yard till 5 P.M. on Friday, 1st August.

### STALL RENT.

60. The following rates shall be paid by Exhibitors when making their Entries:—

	Members.		Non-Members.	
	s.	d.	s.	d.
Cattle,	15	0	25	0
Loose boxes for Stallions—3 and 2 year old				
entire Colts,	40	0	50	0
All other Horses,	20	0	30	0
Sheep, per pen,	10	0	15	0
Swine, per pen,	15	0	20	0
Poultry, each entry,	4	0	6	0
Wool, each entry,	4	0	6	0
Dairy Produce, each entry,	4	0	6	0
Night accommodation for Attendants, each,	10	0	12	0
Covered Booths for offices, 9 feet by 9 feet,	70	0	100	0
Newspaper offices,	£2, 10s.			

### IMPLEMENTS AND MACHINERY.

61. Implements to be entered with the Secretary on or before 6th June. Received in the Yard on Tuesday, 22d July, and till ten o'clock on the morning of Tuesday, 29th July. Exhibited Tuesday, Wednesday, Thursday, and Friday, 29th, 30th and 31st July, and 1st August.

62. No Money Prizes or Medals will be given for Implements of any kind, and no inspection of them by Judges will take place.

63. Agricultural Implements, and Implements and collections of articles not Agricultural, will be received for Exhibition, but the Secretary will be entitled to refuse Entries from dealers in articles not deemed worthy of Exhibition.

64. Implements will be placed in the following sections, viz.:—1st, Under cover; 2d, Under cover allowed to be closed in all round; 3d, Part under cover and part open; 4th, Open; 5th, Under cover or open, or part under cover and part open, for articles not in motion belonging to Exhibitors in motion yard; 6th, Motion yard. Exhibitors must intimate in which section their Exhibits are to be placed, and specify the space they require.

65. The articles of each Exhibitor will be all placed in one stand, except implements in motion, and must not on any account extend beyond the width allowed. No article to be moved out of its stand till the termination of the Show, at 5 P.M. on Friday, 1st August.

66. Exhibitors must arrange their own articles *within* the space allotted to them before 11 o'clock on Tuesday the 29th, and to the satisfaction of those in charge of the Implement Yard.

67. Exhibitors must on no account leave their stands during the judging of Stock, and if found in the Stock Yard they will be fined 10s.

68. All Machines requiring steam or fire must be entered as such in the



Certificate, and will be placed in the Motion Yard. Coke must be used in all cases where fire is required.

69. No Steam Engine shall be driven in the Yard at a greater speed than 6 miles an hour.

70. Locomotive and Traction Engines and other Machines must not be moved from their places without permission of the Secretary, and must not be moved from their stands till 5.30 P.M. on Friday.

71. There must be attached to each Implement, when forwarded to the Show, a label bearing the Exhibitor's name, and that of the implement.

72. The carriage of all Implements must be prepaid.

#### STALL RENT.

73. No smaller space than 6 feet frontage, 20 feet deep (in Motion Yard 50 feet deep), can be allowed for Implements, and, except in the closed-in stalls, no boarding shall exceed 4 feet in height.

74. Implement Exhibitors who are Members of the Society are entitled to 20 feet by 20 feet open space free; or in Motion Yard 8 feet by 50 feet open space free; for additional space the charge is as follows:—

	Members.	Non-Members.
Implement Shedding, 20 feet deep, per foot . . .	£0 3 0	£0 4 0
Implements without Shedding, 20 feet deep, per foot . . .	0 1 0	0 2 0
Implements in Motion Yard, without shedding, 50 feet deep, per foot . . .	0 2 6	0 5 0
Implement Shedding in Motion Yard, 20 feet deep with 30 feet open space behind . . .	0 4 6	0 7 0
Covered Booths for offices, 9 feet by 9 feet . . .	3 10 0	5 0 0
Newspaper offices . . . . .	£2, 10s.	

#### ADMISSION TO YARD.

The public will be admitted on Tuesday, 29th July, at 11 A.M., when the inspection by the Judges commences. The charges will be—Tuesday, from 11 A.M. till 5 P.M., 10s; Wednesday, from 8 A.M. till 5 P.M., 2s. 6d.; Thursday, from 8 A.M. till 1 P.M., 2s. 6d., after 1 o'clock, 1s.; Friday, from 8 A.M. till 12 noon, 1s., and from 12 till 5 P.M. 6d.

Members of the Society are admitted to the Show-Yard without payment, on exhibiting a "Member's Ticket." Tickets will be sent to all Members residing in the Counties connected with the Show. Members residing in other localities must apply for Tickets at the Secretary's Office, 3 George IV. Bridge, Edinburgh, *before the 17th of July.*

Exhibitors of Stock (not Members) will be charged 5s. for admission to the judging on Tuesday; on Wednesday at 8 A.M., and throughout the Show they will be admitted free.

Exhibitors of Implements and their attendants will be entitled to free entry during the Show, but must remain at their stalls during the judging of the Stock on Tuesday.

Tickets for attendants on Stock and Implements are not available to admit to the Yard between 9 A.M. and 5 P.M.; and any attendant requiring to leave the Yard during the day, cannot be again admitted except by a special pass (to be applied for at the Committee Room), which must be given up on his return.

Placards are prohibited both inside the Show-Yard and on the outside of the Boundary Fence, with the exception of those belonging to Exhibitors, whose right is confined to their own stalls. No newspapers or any other article allowed to be carried about the Yard for sale. No strolling bands admitted.

*No Carriages or Equestrians admitted without special leave from the Directors, and then only for Invalids. Bath chairs may be brought in.*

Premium Lists, Regulations, and Certificates of Entry, may be obtained by applying at the Secretary's Office, No. 3 George IV. Bridge, Edinburgh.

*All Communications should be addressed to FLETCHER NORTON MENZIES, Esq., Secretary of the Highland and Agricultural Society of Scotland, No. 3 George IV. Bridge, Edinburgh.*

### LAST DAYS OF ENTRY.

IMPLEMENTS—FRIDAY, 6TH JUNE.

STOCK AND ALL OTHER ENTRIES—FRIDAY, 13TH JUNE.

### RAILWAY ARRANGEMENTS.

The Caledonian, North British, and Glasgow and South-Western Railway Companies have adopted the following regulations :—

1. Stock and Implements to the Show to be charged full rates.
2. From the Show, if sold, full rates.
3. From the Show, if unsold, to be conveyed back at one-half the ordinary charge to the station whence they were sent, on production of a certificate from the Secretary of the Show, to the effect that they are really unsold. *This Regulation applies only if the Traffic is conveyed by Goods Trains, there being no reduction in the rates when it is conveyed by Passenger Trains.*

#### 4. HORSES—

- (a) A Stallion to be charged the rate for one Horse, plus 50 per cent.
- (b) Any other Horse, for which the exclusive use of a horse-box is required, to be charged the rate for one Horse, plus 50 per cent.
- (c) Other Horses to be charged at ordinary rates.

#### 5. BULLS, COWS, AND OTHER ANIMALS—

- (a) A Bull, Cow, or other animal sent in a horse-box, and requiring the exclusive use of the box, to be charged the rate for three Horses.
- (b) Bulls, Cows, or other animals sent in horse-boxes, but not requiring the exclusive use of the box, to be charged each the rate for one Horse, plus 50 per cent.

6. Poultry.—The Companies give notice that they are not common carriers of poultry; they will, however, to accommodate the public, carry such by special agreement only, and at special rates, to be obtained at the Companies' stations.

7. Dogs to be charged full rates both ways.
8. All the above to be carried at owners' risk.
9. Collection and Delivery to be performed in all cases by the owners.

The Highland and Great North of Scotland Railway Companies have adopted the following Clearing-House Regulations :—

1. Stock and implements to the Show to be charged full rates.
2. From the Show, if sold, full rates.
3. From the Show, if unsold, to be conveyed at *half rates* back to the station whence they were sent, on production of a certificate from the Secretary of the Agricultural Show to the effect that they are really unsold.

#### 4. All the above to be carried at owners' risk.

5. When agricultural machines and implements are carried under these regulations to and from Shows, they must be invoiced station to station at the ordinary rates. Collection and delivery at sending station, and delivery to, or collection from, the Show-Yard to be performed by, or at the expense of the owners.

6. Regulations Nos. 1, 2, and 3, as to Cattle and Horses, to apply only if the traffic be conveyed in Cattle Waggons and by Goods Trains.

7. Poultry and Dogs to be charged full rates both ways.

8. No reduction in the ordinary rates for Horses or Cattle when conveyed in Horse-boxes.

9. Parties requiring the exclusive use of a Horse-box for only one animal to be charged one fare and a half.

The North-Eastern Railway Company has adopted the above Clearing-House Regulations, except No. 9, which they have altered as follows:—  
“Parties requiring the exclusive use of a Horse-box for only one animal to be charged as for four horses.”

### PREMIUMS.

THE TWEEDDALE GOLD MEDAL, value £21, will be given for the best Shorthorn animal in the Yard.

TWO SILVER CUPS, value £25 each, will be given for the best Stallion and for the best Mare for Agricultural purposes. All former Prize Animals are eligible to compete.

In addition to the Premiums, the Judges are authorised to award three Commendations in each section (except Poultry, where only two prizes are to be awarded) if the entries are numerous, and the animals of sufficient merit. These Commendations to consist of—Very Highly Commended, Highly Commended, and Commended.

## CLASS I.—CATTLE.

SECTION	SHORT HORN.	
1	Best Bull calved before 1st Jan. 1877, . . .	£25
	Second best, . . . . .	15
	Third best, . . . . .	10
	Breeder of best Bull, . . . The Silver Medal.	
2.	Best Bull calved after 1st Jan. 1877, . . .	25
	Second best, . . . . .	15
	Third best, . . . . .	10
3.	Best Bull calved after 1st Jan. 1878, . . .	15
	Second best, . . . . .	10
	Third best, . . . . .	5
4.	Best Cow of any age, . . . . .	20
	Second best, . . . . .	10
	Third best, . . . . .	5
5.	Best Heifer calved after 1st Jan. 1877, . . .	15
	Second best, . . . . .	10
	Third best, . . . . .	5
6.	Best Heifer calved after 1st Jan. 1878, . . .	10
	Second best, . . . . .	8
	Third best, . . . . .	4
Carry forward,		£217

SECTION Brought forward, £217

POLLED ANGUS OR ABERDEEN,

7. Best Bull calved before 1st Jan. 1877, . . .	£20
Second best, . . . . .	10
Third best, . . . . .	5
Breeder of best Bull, . . . . .	The Silver Medal.
8. Best Bull calved after 1st Jan. 1877, . . .	20
Second best, . . . . .	10
Third best, . . . . .	5
9. Best Bull calved after 1st Jan. 1878, . . .	10
Second best, . . . . .	5
Third best, . . . . .	3
10. Best Cow of any age, . . . . .	20
Second best, . . . . .	10
Third best, . . . . .	5
11. Best Heifer calved after 1st Jan. 1877, . .	10
Second best, . . . . .	6
Third best, . . . . .	4
12. Best Heifer calved after 1st Jan. 1878, . .	8
Second best, . . . . .	5
Third best, . . . . .	3

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GALLOWAY.

13. Best Bull calved before 1st Jan. 1877, . .	£20
Second best, . . . . .	10
Third best, . . . . .	5
Breeder of best Bull, . . . . .	The Silver Medal.
14. Best Bull calved after 1st January 1877, .	20
Second best, . . . . .	10
Third best, . . . . .	5
15. Best Bull calved after 1st Jan. 1878, . .	10
Second best, . . . . .	5
Third best, . . . . .	3
16. Best Cow of any age, . . . . .	20
Second best, . . . . .	10
Third best, . . . . .	5
17. Best Heifer calved after 1st Jan. 1877, . .	10
Second best, . . . . .	6
Third best, . . . . .	4
18. Best Heifer calved after 1st Jan. 1878, . .	8
Second best, . . . . .	5
Third best, . . . . .	3

159

Carry forward,

£535

SECTION	Brought forward,	£585
AYRSHIRE.		
19. Best Bull calved before 1st Jan. 1877, . . .	£20	
Second best, . . . . .	10	
Third best, . . . . .	5	
Breeder of best Bull, . . . . .	The Silver Medal.	
20. Best Bull calved after 1st Jan. 1877, . . .	20	
Second best, . . . . .	10	
Third best, . . . . .	5	
21. Best Bull calved after 1st Jan. 1878, . . .	10	
Second best . . . . .	5	
Third best . . . . .	3	
22. Best Cow in Milk, of any age, . . . . .	20	
Second best, . . . . .	10	
Third best, . . . . .	5	
23. Best Cow in Calf, of any age, or Heifer in . . .		
Calf, calved before 1st Jan. 1877, . . .	15	
Second best, . . . . .	10	
Third best, . . . . .	5	
24. Best Heifer calved after 1st Jan. 1877, . . .	10	
Second best, . . . . .	6	
Third best, . . . . .	4	
25. Best Heifer calved after 1st Jan. 1878, . . .	8	
Second best, . . . . .	5	
Third best, . . . . .	3	
<hr/>		
HIGHLAND.		
26. Best Bull calved before 1st Jan. 1876, . . .	£20	
Second best, . . . . .	10	
Third best, . . . . .	5	
Breeder of best Bull, . . . . .	The Silver Medal.	
27. Best Bull calved after 1st Jan. 1876, . . .	20	
Second best, . . . . .	10	
Third best, . . . . .	5	
28. Best Bull calved after 1st Jan. 1877, . . .	10	
Second best, . . . . .	5	
Third best, . . . . .	3	
29. Best Cow of any age, . . . . .	20	
Second best, . . . . .	10	
Third best, . . . . .	5	
30. Best Heifer calved after 1st Jan. 1876, . . .	10	
Second best, . . . . .	6	
Third best, . . . . .	4	
31. Best Heifer calved after 1st Jan. 1877, . . .	8	
Second best, . . . . .	5	
Third best, . . . . .	3	
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		189
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		159
Carry forward,		£883

SECTION Brought forward, £883

## FAT STOCK.

32. Best Highland Ox calved after 1st Jan. 1875, .	£6
Second best, . . . . .	3
33. Best Highland Ox calved after 1st Jan. 1876, .	5
Second best, . . . . .	2
34. Best Polled Ox calved after 1st Jan. 1876, .	6
Second best, . . . . .	3
35. Best Polled Ox calved after 1st Jan. 1877, .	5
Second best, . . . . .	2
36. Best Ox, of any other Pure or Cross Breed, calved after 1st Jan. 1876, . . . . .	6
Second best, . . . . .	3
37. Best Ditto, calved after 1st Jan. 1877, . . . . .	5
Second best, . . . . .	2
38. Best Cross-bred Heifer, calved after 1st Jan. 1876, .	6
Second best, . . . . .	3
39. Best Cross-bred Heifer, calved after 1st Jan. 1877, .	5
Second best, . . . . .	2

64

£947

## CLASS II.—HORSES

## FOR AGRICULTURAL PURPOSES.

1. Best Stallion foaled before 1st Jan. 1876, . . . . .	£40
Second best, . . . . .	30
Third best, . . . . .	20
Fourth best, . . . . .	10
Breeder of best Stallion, The Silver Medal. . . . .	
2. Best Entire Colt foaled after 1st Jan. 1876, . . . . .	30
Second best, . . . . .	20
Third best, . . . . .	10
Fourth best, . . . . .	5
3. Best Entire Colt foaled after 1st Jan. 1877, . . . . .	20
Second best, . . . . .	14
Third best, . . . . .	7
Fourth best, . . . . .	4
4. Best Entire Colt foaled after 1st Jan. 1878, . . . . .	15
Second best, . . . . .	8
Third best, . . . . .	4
Fourth best, . . . . .	2
5. Best Mare (with Foal at foot) foaled before 1st Jan. 1876, .	30
Second best, . . . . .	20
Third best, . . . . .	15
Fourth best, . . . . .	6

Carry forward £310

HORSES—*continued.*

SECTION	Brought forward,	£310
6. Best Mare (in Foal) foaled before 1st Jan. 1876,	.	25
Second best,	.	15
Third best,	.	10
Fourth best,	.	5
7. Best Filly foaled after 1st Jan. 1876,	.	20
Second best,	.	10
Third best,	.	5
Fourth best,	.	3
8. Best Filly foaled after 1st Jan. 1877,	.	15
Second best,	.	8
Third best,	.	4
Fourth best,	.	2
9. Best Filly foaled after 1st Jan. 1878,	.	10
Second best,	.	5
Third best,	.	3
Fourth best,	.	2
10. Best Draught Gelding foaled before 1st Jan. 1876,	.	10
Second best,	.	5
Third best,	.	3
11. Best Draught Gelding, foaled after 1st Jan. 1876,	.	8
Second best,	.	4
Third best,	.	2
		<hr/>
		£484

## HUNTERS AND ROADSTERS.

12. Best Brood Mare, with Foal at foot, suitable for Field,	£20
Second best,	10
Third best,	5
13. Best Mare or Gelding, suitable for Field, foaled before 1st Jan. 1875,	20
Second best,	10
Third best,	5
14. Best Mare or Gelding, suitable for Field, foaled after 1st Jan. 1875,	15
Second best,	8
Third best,	4
15. Best Mare or Gelding, suitable as Hackney or Roadster, between 14 and 15 hands high,	8
Second best,	4
Third best,	2
16. Best Stallion, Mare, or Gelding, for leaping,	10
Second best,	5
Third best,	3
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	129
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Carry forward,	£613

## SECTION

Brought forward,

613

## PONIES.

17. Best Highland Stallion, 14½ hands and under, .	£6
Second best, . . . . .	3
Third best, . . . . .	1
18. Best Highland Mare or Gelding, between 13 and 14½ hands high, . . . . .	6
Second best, . . . . .	3
Third best, . . . . .	1
19. Best Mare or Gelding, between 12½ and 14 hands high, . . . . .	6
Second best, . . . . .	3
Third best, . . . . .	1
20. Best Mare or Gelding, under 12½ hands high, .	6
Second best, . . . . .	3
Third best, . . . . .	1

40

## STALLIONS FOR AGRICULTURAL PURPOSES.

Best Stallion for Agricultural purposes to serve in  
the District of the Show in season 1879,  
Competition to take place in spring, .

150

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£803

## CLASS III.—SHEEP.

## BLACKFACED.

1. Best Tup, three shear and upwards, . . . . .	£8
Second best, . . . . .	4
Third best, . . . . .	2
2. Best Tup, two shear, . . . . .	12
Second best, . . . . .	8
Third best, . . . . .	4
3. Best Shearling Tup, . . . . .	12
Second best, . . . . .	8
Third best, . . . . .	4
4. Best 5 Ewes above one shear, . . . . .	10
Second best, . . . . .	5
Third best, . . . . .	2
Best Pen of Lambs shown with Ewes, . . . . .	2
Second best, . . . . .	1
5. Best 5 Shearling Ewes or Gimmers, . . . . .	10
Second best, . . . . .	5
Third best, . . . . .	2

Carry forward,

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£99



SECTION Brought forward, £99

## CHEVIOT.

6.	Best Tup, three shear and upwards	£8
	Second best,	4
	Third best,	2
7.	Best Tup, two shear,	12
	Second best,	8
	Third best,	4
8.	Best Shearling Tup,	12
	Second best,	8
	Third best,	4
9.	Best 5 Ewes above one shear,	10
	Second best,	5
	Third best,	2
	Best Pen of Lambs shown with Ewes,	2
	Second best,	1
10.	Best 5 Shearling Ewes or Gimmers,	10
	Second best,	5
	Third best,	2

99

## BORDER LEICESTER.

11.	Best Tup, three shear and upwards,	£8
	Second best,	4
	Third best,	2
12.	Best Tup, two shear,	12
	Second best,	8
	Third best,	4
13.	Best Shearling Tup,	12
	Second best,	8
	Third best,	4
14.	Best 5 Ewes above one shear,	10
	Second best,	5
	Third best,	2
15.	Best 5 Shearling Ewes, or Gimmers,	10
	Second best,	5
	Third best,	2

96

## LEICESTER.

16.	Best Tup above one shear,	3
	Second best,	2
	Third best,	1
17.	Best Shearling Tup,	3
	Second best,	2
	Third best,	1
18.	Best 5 Ewes above one shear,	3
	Second best,	2
	Third best,	1

Carry forward, £18 £294

LEICESTER—*continued*.

SECTION	Brought forward,	£18	£294
19. Best 5 Shearling Ewes or Gimmers, . . . . .		3	
Second best, . . . . .		2	
Third best, . . . . .		1	
		<hr/>	24

## COTSWOLD AND LINCOLN.

20. Best Tup above one shear, . . . . .	£3	
Second best, . . . . .	2	
Third best, . . . . .	1	
21. Best Shearling Tup, . . . . .	3	
Second best, . . . . .	2	
Third best, . . . . .	1	
22. Best 5 Ewes above one shear, . . . . .	3	
Second best, . . . . .	2	
Third best, . . . . .	1	
23. Best 5 Shearling Ewes or Gimmers, . . . . .	3	
Second best, . . . . .	2	
Third best, . . . . .	1	
	<hr/>	24

## SHORT WOOLLED.

24. Best Tup above one shear, . . . . .	3	
Second best, . . . . .	2	
Third best, . . . . .	1	
25. Best Shearling Tup, . . . . .	3	
Second best, . . . . .	2	
Third best, . . . . .	1	
26. Best 5 Ewes above one shear, . . . . .	3	
Second best, . . . . .	2	
Third best, . . . . .	1	
27. Best 5 Gimmers or Shearling Ewes, . . . . .	3	
Second best, . . . . .	2	
Third best, . . . . .	1	
	<hr/>	24

## EXTRA SHEEP.

28. Best 5 Cheviot Wethers, not above 3 shear, . . . . .	4	
Second best, . . . . .	2	
29. Best 5 Blackfaced Wethers, not above 4 shear, . . . . .	4	
Second best, . . . . .	2	
30. Best 5 half-bred Wether Hoggs, above 1 shear, . . . . .	4	
Second best, . . . . .	2	
31. Best 5 half-bred Wether Hoggs, not above 1 shear, . . . . .	4	
Second best, . . . . .	2	
32. Best 5 Cross-bred Wether Hoggs, above 1 shear, . . . . .	4	
Second best, . . . . .	2	
33. Best 5 Cross-bred Wether Hoggs, not above 1 shear, . . . . .	4	
Second best, . . . . .	2	
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36

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£402

## CLASS IV.—SWINE.

## LARGE BREED.

1. Best Boar,	.	.	.	.	.	£8
Second best,	.	.	.	.	.	4
Third best,	.	.	.	.	.	2
2. Best Sow,	.	.	.	.	.	6
Second best,	.	.	.	.	.	3
Third best,	.	.	.	.	.	1
3. Best Pen of 3 Pigs, not above 8 months old,	.	.	.	.	.	4
Second best,	.	.	.	.	.	2
Third best,	.	.	.	.	.	1

£31

## BLACK OR BERKSHIRE.

4. Best Boar,	.	.	.	.	.	£8
Second best,	.	.	.	.	.	4
Third best,	.	.	.	.	.	2
5. Best Sow,	.	.	.	.	.	6
Second best,	.	.	.	.	.	3
Third best,	.	.	.	.	.	1
6. Best Pen of 3 Pigs, not above 8 months old,	.	.	.	.	.	4
Second best,	.	.	.	.	.	2
Third best,	.	.	.	.	.	1

31

## SMALL BREED.

7. Best Boar,	.	.	.	.	.	8
Second best,	.	.	.	.	.	4
Third best,	.	.	.	.	.	2
8. Best Sow,	.	.	.	.	.	6
Second best,	.	.	.	.	.	3
Third best,	.	.	.	.	.	1
9. Best Pen of 3 Pigs, not above 8 months old,	.	.	.	.	.	4
Second best,	.	.	.	.	.	2
Third best,	.	.	.	.	.	1

31

£93

## EXTRA STOCK.

Animals not included in the Sections for Competition may be exhibited as Extra Stock, and will receive Honorary Premiums when specially commended.

## CLASS V.—POULTRY.

FIRST PREMIUM—ONE SOVEREIGN; SECOND PREMIUM—TEN SHILLINGS  
—in all the Sections of Poultry.

Aged Birds must have been hatched previous to, and Cockerels and  
Pullets in, 1879.

	<i>Section.</i>	<i>Section.</i>
DORKING— <i>Silver Grey</i> , .	1. Cock. 3. Cockerel.	2. 2 Hens. 4. 2 Pullets.
DORKING— <i>Coloured</i> , .	5. Cock. 7. Cockerel.	6. 2 Hens. 8. 2 Pullets.
COCHIN-CHINA, .	9. Cock. 11. Cockerel.	10. 2 Hens. 12. 2 Pullets.
BRAHMAPOOTRA, . .	13. Cock. 15. Cockerel.	14. 2 Hens. 16. 2 Pullets.
SPANISH, . . .	17. Cock. 19. Cockerel.	18. 2 Hens. 20. 2 Pullets.
SCOTCH GREY, . .	21. Cock. 23. Cockerel.	22. 2 Hens. 24. 2 Pullets.
HAMBURG— <i>Pencilled</i> .	25. Cock. 27. Cockerel.	26. 2 Hens. 28. 2 Pullets.
HAMBURG— <i>Spangled</i> , .	29. Cock. 31. Cockerel.	30. 2 Hens. 32. 2 Pullets.
POLISH, . . .	33. Cock. 35. Cockerel.	34. 2 Hens. 36. 2 Pullets.
GAME— <i>Black or Brown</i> { <i>Reds</i> , . . . {	37. Cock. 39. Cockerel.	38. 1 Hen. 40. 1 Pullet.
GAME— <i>Any other</i> { <i>Variety</i> , . . {	41. Cock. 43. Cockerel.	42. 1 Hen. 44. 1 Pullet.
ANY OTHER PURE BREED, {	45. Cock. 47. Cockerel.	46. 2 Hens. 48. 2 Pullets.
BANTAMS— <i>Game</i> , . .	49. Cock. 51. Cockerel.	50. 1 Hen. 52. 1 Pullet.
BANTAMS— <i>Sebright</i> , .	53. Cock. 55. Cockerel.	54. 2 Hens. 56. 2 Pullets.
BANTAMS— <i>Any other</i> { <i>Variety</i> , . . {	57. Cock. 59. Cockerel.	58. 2 Hens. 60. 2 Pullets.
DUCKS— <i>White Aylesbury</i> , .	61. Drake. 63. Drake (Young).	62. 1 Duck. 64. 1 Duckling.
DUCKS— <i>Rouen</i> , . .	65. Drake. 67. Drake (Young).	66. 1 Duck. 68. 1 Duckling.

POULTRY—*continued.*

	<i>Section.</i>	<i>Section.</i>
DUCKS— <i>Any other Pure Breed,</i> . . . . .	69. Drake. 71. Drake (Young).	70. 1 Duck. 72. 1 Duckling.
TURKEYS— <i>Black Norfolk,</i>	73. Cock. 75. Cock (Poult).	74. 1 Hen. 76. 1 Hen (Poult).
TURKEYS— <i>Any other Breed,</i>	77. Cock. 79. Cock (Poult).	78. 1 Hen. 80. 1 Hen (Poult).
GEESE— <i>Grey Toulouse,</i>	81. Gander. 83. Gander (Young).	82. 1 Goose. 84. 1 Gosling.
GEESE— <i>Emden,</i> . . . . .	85. Gander. 87. Gander (Young).	86. 1 Goose. 88. 1 Gosling.
GEESE— <i>Any other Pure Breed,</i> . . . . .	89. Gander. 91. Gander (Young).	90. 1 Goose. 92. 1 Gosling.

Amount of Poultry Premiums, £138.

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## CLASS VI.—WOOL.

## SECTION

1. Best 5 fleeces of Cheviot White Wool, . . . . .	£3
Second best, . . . . .	2
2. Best 5 fleeces of Blackfaced White Wool, . . . . .	3
Second best, . . . . .	2
3. Best 5 fleeces of Leicester Wool, . . . . .	3
Second best, . . . . .	2
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	£15

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## CLASS VII.—DAIRY PRODUCE.

1. Best Cured Butter, not less than 7 lbs., . . . . .	£6
Second best, . . . . .	4
Third best, . . . . .	2
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	£12
2. Best Powdered Butter, not less than 7 lbs., . . . . .	6
Second best, . . . . .	4
Third best, . . . . .	2
	<hr/>
	12
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	£24

DAIRY PRODUCE—*continued.*

SECTION	Brought forward,	£24
3. Best Fresh Butter, three $\frac{1}{2}$ lb. rolls, . . .	£6	
Second best, . . . . .	4	
Third best, . . . . .	2	
	<hr/>	12
4. Best Cheddar Cheese, 56 lbs. and upwards, . . .	8	
Second best, . . . . .	6	
Third best, . . . . .	4	
	<hr/>	18
5. Best Cheddar Cheese, 14 lbs. and under, . . .	5	
Second best, . . . . .	3	
Third best, . . . . .	2	
	<hr/>	10
6. Best Dunlop Cheese, 30 lbs. and upwards, . . .	5	
Second best, . . . . .	3	
Third best, . . . . .	2	
	<hr/>	10
7. Best Cheese, any other variety, 30 lbs. and upwards, . . . . .	5	
Second best, . . . . .	3	
Third best, . . . . .	2	
	<hr/>	10
8. Best Cheese, any variety, 15 lbs. and under, . . .	5	
Second best, . . . . .	3	
Third best, . . . . .	2	
	<hr/>	10
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		£94

**CLASS VIII.—IMPLEMENTS, &c.**

Reference is made to the General Regulations for the terms on which Implements and Machines may be exhibited.

**CLASS IX.—BEE HUSBANDRY.**

£20 and 2 Silver Medals have been granted to the Caledonian Apiarian and Entomological Society. Information to be obtained from and Entries made with Mr R. J. Bennett, 50 Gordon Street, Glasgow.

## ABSTRACT OF PREMIUMS.

1. Cattle,	.	.	.	.	£947	0	0
2. Horses,	.	.	.	.	803	0	0
3. Sheep,	.	.	.	.	402	0	0
4. Swine,	.	.	.	.	93	0	0
5. Poultry,	.	.	.	.	138	0	0
6. Wool,	.	.	.	.	15	0	0
7. Dairy Produce,	.	.	.	.	94	0	0
8. Tweeddale Gold Medal,	.	.	.	.	21	0	0
9. Two Silver Cups,	.	.	.	.	50	0	0
10. Six Silver Medals to Breeders of best Aged Bulls and best Stallion,	.	.	.	.	4	16	0
11. Extra Stock, say	.	.	.	.	40	0	0
12. Bee Husbandry,	.	.	.	.	21	12	0
					<hr/>		
					£2629	8	0

## GENERAL SHOW OF STOCK AND IMPLEMENTS

At **KELSO, 1880.**

The District connected with the Show comprises the Counties  
of Berwick, Roxburgh, Selkirk, and Peebles.

*Premiums will be offered for the following Classes :—*

**CATTLE.****SHORTHORN.**

Bulls calved before 1st January.....	1878
Bulls calved after 1st January .....	1878
Bulls calved after 1st January .....	1879
Cows of any age.	
Heifers calved after 1st January .....	1878
Heifers calved after 1st January .....	1879
Family Prize.	

*The Family Prize to consist of a Cow of any age, and two of her  
descendants, Male or Female.*

**POLLED ANGUS OR ABERDEEN.**

Bulls calved before 1st January.....	1878
Bulls calved after 1st January .....	1878
Bulls calved after 1st January .....	1879
Cows of any age.	
Heifers calved after 1st January .....	1878
Heifers calved after 1st January .....	1879

**GALLOWAY.**

Bulls calved before 1st January.....	1878
Bulls calved after 1st January .....	1878
Bulls calved after 1st January .....	1879
Cows of any age.	
Heifers calved after 1st January .....	1878
Heifers calved after 1st January .....	1879

**AYRSHIRE.**

Bulls calved before 1st January.....	1878
Bulls calved after 1st January .....	1878
Bulls calved after 1st January .....	1879
Cows in milk of any age.	
Cows in calf of any age, or Heifers in calf calved before 1st January	1878
Heifers calved after 1st January .....	1878
Heifers calved after 1st January .....	1879



## HIGHLAND.

Bulls calved before 1st January .....	1878
Bulls calved after 1st January .....	1878
Cows of any age.	
Heifers calved after 1st January .....	1877
Heifers calved after 1st January .....	1878

## FAT STOCK.

Highland Oxen calved after 1st January .....	1876
Highland Oxen calved after 1st January .....	1877
Polled Oxen calved after 1st January .....	1877
Polled Oxen calved after 1st January .....	1878
Oxen of any other pure or cross breed calved after 1st January	1877
Oxen of any other pure or cross breed calved after 1st January	1878
Cross-bred Heifers calved after 1st January .....	1877
Cross-bred Heifers calved after 1st January .....	1878

## HORSES

*For Agricultural Purposes.*

Stallions foaled before 1st January .....	1877
Entire Colts foaled after 1st January .....	1877
Entire Colts foaled after 1st January .....	1878
Entire Colts foaled after 1st January .....	1879
Mares with foals at foot, foaled before 1st January .....	1877
Mares in foal, foaled before 1st January .....	1877
Fillies foaled after 1st January .....	1877
Fillies foaled after 1st January .....	1878
Fillies foaled after 1st January .....	1879
Draught Geldings foaled before 1st January .....	1877
Draught Geldings foaled after 1st January .....	1877

Stallion to serve in the District of the Show in Season 1880.

## HUNTERS AND ROADSTERS.

Brood Mares, with foals at foot, suitable for field.

Mares or Geldings, suitable for field, foaled before 1st January 1876

Mares or Geldings, suitable for field, foaled after 1st January.....1877

Mares or Geldings, suitable as Hackneys or Roadsters, between  
14 and 15 hands high.

Stallions, Mares, or Geldings, for leaping.

## PONIES.

Highland Stallions 14½ hands and under.

Highland Mares or Geldings between 13 and 14½ hands high.

Mares or Geldings between 12½ and 14 hands high.

Mares or Geldings under 12½ hands.

**S H E E P.**

*Ewes, Gimmers, Wethers, and Hogs to be exhibited in pens of five.*

**CHEVIOT.**

Tups three shear and upwards.  
Tups two shear.  
Shearling Tups.  
Ewes above one shear.  
Shearling Ewes or Gimmers.

**BLACKFACED.**

Tups three shear and upwards.  
Tups two shear.  
Shearling Tups.  
Ewes above one shear.  
Shearling Ewes or Gimmers.

**BORDER LEICESTER.**

Tups three shear and upwards  
Tups two shear.  
Shearling Tups.  
Ewes above one shear.  
Shearling Ewes or Gimmers.  
Family Prize.

*The Family Prize to consist of one aged Tup, two Ewes, two Gimmers, two Ewe Lambs, and two shearling Tups. The Ewes to have Lambs in Season 1880, and all bred by Exhibitor except aged Tup.*

**LEICESTER.**

Tups above one shear.  
Shearling Tups.  
Ewes above one shear.  
Shearling Ewes or Gimmers.

**COTSWOLD AND LINCOLN.**

Tups above one shear.  
Shearling Tups.  
Ewes above one shear.  
Shearling Ewes or Gimmers.

**SHORT-WOOLLED.**

Tups above one shear.  
Shearling Tups.  
Ewes above one shear.  
Shearling Ewes or Gimmers.

**EXTRA SHEEP.**

Cheviot Wethers not above three shear.  
Blackfaced Wethers not above four shear.  
Half-bred Wether Hogs above one shear.  
Cross-bred Wether Hogs above one shear.

*Sheep not included in the above Classes must be entered as Extra Stock.*

**WOOL.**

Best 5 Fleeces of the Cheviot, Blackfaced, and Leicester Wool.

**SWINE.**

*Pigs to be exhibited in pens of three.*

**LARGE BREED.**

Boars.

Sows.

Pigs not above 8 months old.

**BLACK OR BERKSHIRE.**

Boars.

Sows.

Pigs not above 8 months old.

**SMALL BREED.**

Boars.

Sows.

Pigs not above 8 months old.

**POULTRY.**

To be shown in Pens of One Cock or Cockerel and Two Hens or Pullets of each of the following breeds, except in the sections for Ducks, Turkeys, Geese, and Hens and Pullets of the Game and Malay Breeds, where only one bird is required:—

Dorking—Silver-Grey.

Dorking—Coloured.

Cochin-China.

Brahmapootra.

Spanish.

Scotch Grey.

Hamburg—Pencilled.

Hamburg—Spangled.

Any other variety.

Game—Black or Brown Reds.

Game—any other variety.

Bantams—Game.

Bantams—Selbright.

Bantams—Any other variety.

Ducks—White Aylesbury.

Ducks—Rouen.

Ducks—Any other pure Breed.

Turkeys—Any pure Breed.

Geese—Any pure Breed.

APPENDIX (C).

LIST OF MEMBERS

OF

THE HIGHLAND AND AGRICULTURAL  
SOCIETY OF SCOTLAND,

1879,

ALPHABETICALLY ARRANGED, AND DISTINGUISHING  
THE YEAR OF ADMISSION.

By the Charter of 1834 the Society consists of two classes, Ordinary and Honorary or Corresponding Members. The number of Honorary or Corresponding Members resident in the United Kingdom must not exceed twenty, but with power to the Society to elect as Honorary Associates persons resident abroad, not subjects of Her Majesty, who may have been benefactors to the Society, or who are distinguished for their skill in Art or Science, provided that the number of such Foreign Associates shall not exceed twenty.

By a Bye-Law passed in 1873, with reference to the Supplementary Charter of 1856, successful Candidates for the Society's Agricultural Diploma are thereby eligible to be elected free Life Members of the Society.

Candidates for Ordinary Membership must be proposed by a Member, and are elected at the half-yearly General Meetings in January and June. It is not necessary that the Member who proposes the Candidate should attend the Meeting.

The ordinary subscription is £1, 3s. 6d. annually, which may be redeemed by one payment, varying, according to the number of previous annual payments, from £12, 12s. to £7, 1s. Proprietors farming the whole of their own lands, whose assessment on the Valuation Roll does not exceed £500 per annum, and all Tenant-Farmers, Office-Bearers of Local Agricultural Associations, Resident Agricultural Factors, Land Stewards, Foresters, Agricultural Implement Makers, and Veterinary Surgeons, none of them being also owners of land to an extent exceeding £500 per annum, are admitted on a subscription of 10s. annually, which may be redeemed by one payment, varying according to the number of previous annual payments, from £5, 5s. to £3.

According to the Charter, a Member who homologates his Election by paying his first subscription cannot retire until he has paid, in annual subscriptions, or otherwise, an amount equivalent to a life composition.

Members of the Society receive the Transactions on application, and are entitled to apply for District Premiums—to report Ploughing Matches for the Medal—to attend Shows free of charge, and to exhibit Stock at reduced rates.

Members having Candidates to propose are requested to send their names to FLETCHER NORTON MENZIES, Esq., No. 3 George IV. Bridge, Edinburgh.

The Members marked \* have been Presidents ; and † Vice-Presidents.

# LIST OF MEMBERS.

Her Most Gracious Majesty THE QUEEN.

Admitted

1872

\*His Royal Highness The PRINCE OF WALES.

1873

## Admitted

- 1833 ABERCORN, His Grace the Duke of, K.G., London
- 1862 ABERCROMBY, Right Hon. Lord, Airthrey Castle, Stirling
- 1873 ABERCROMBY, Sir Robert John, of Birkenbog, Bart., Forglen, Turrieff
- 1868† ABERDEEN, Right Hon. the Earl of, Haddo House, Methlic
- 1872 Abernethy, Peter, Halls, Penicuik
- 1877 Abernethy, Thomas, Halls, Penicuik
- 1865 ABINGER, Right Hon. Lord, Inverlochty Castle, Kingussie
- 1878 Ackers, Benjamin St John, Prinkash Park, Painswick
- 1859 Adam, Alex. F., W.S., 19 Claremont Crescent, Edinburgh
- 1855 Adam, Aneas, Humbertson, Dingwall
- 1860 Adam, John, Closeburn, Thornhill
- 1878 Adam, Robert, City Chamberlain, Edinburgh
- 1856 Adam, Stephen, Wool-Merchant, 11 Hillside Crescent, Edinburgh
- 1876 Adam, Thomas, National Bank, Aberdeen
- 1874 Adam, Thomas, of Lynegar, Bank Agent, Wick
- 1876 Adam, William, Bush, Banchory-Ternan
- 1830 Adam, William, Advocate, Aberdeen
- 1853 ADAM, Right Hon. W. Patrick, of Blair-Adam, M.P.
- 1872 Adamson, Henry D., Balquharn, Alford
- 1859 Adamson S., of Drumclyre, Dumfries
- 1874 Addie, Gavin, Western Club, Glasgow
- 1875 Addie, John, Viewpark, Uddingston
- 1859 Adie, Alexander James, Linlithgow
- 1850 AGNEW, Sir Andrew, of Lochnaw, Bart., Stranraer
- 1878 Agnew, James, High Portineallie, Stranraer
- 1843 Agnew, R. Vans, of Sheuchan and Barnbarroch, M.P., Wigtown

## Admitted

- 1875 Agnew, William, Balwherrio, Stranraer
- 1879 Agnew, William, Manure Merchant, Newton Stewart
- 1857 Aikman, Thomson, Glasgow
- 1876 Ainslie, Ainslie Douglas, of Delgaty Castle, Turrieff
- 1864 Ainslie, Daniel (of the Gart, Callander), 48 Moray Place, Edinburgh
- 1859 Ainslie, David, of Costerton, Black-shiels
- 1848 Ainslie, John, Hillend, Pentland, Loanhead
- 1853 Ainslie, R., of Elvingston, Gladsmuir
- 1875 Ainslie, William, Stobo Mill, Stobo
- 1852† AIRLIE, Right Hon. the Earl of, K.T., Cortachy Castle, Kirriemuir
- 1874 Aitchison, James, 23 Princes Steet, Edinburgh
- 1851 Aitchison, James (late Proncy Mains, Dornoch), Australia
- 1865 Aitchison, Lieut.-Col., of Drummore, Musselburgh
- 1878 Aitchison, John H., Lawhouse, Coldingham
- 1870 Aitchison, Peter, West Garleton, Haddington
- 1863 Aitchison, William, Linhope, Hawick
- 1877 Aitken, Dr A. P., 17 Randolph Crescent, Edinburgh—*Chemist to the Society.*
- 1861 Aitken, George, Tyrie, Kirkcaldy
- 1857 Aitken, James, 2 Claremont Terrace, Glasgow
- 1876 Aitken, James, of Auchengillan, Strathblane
- 1854 Aitken, James, Markle, Prestonkirk
- 1877 Aitken, John, sen., V.S., Causewayside, Edinburgh
- 1864 Aitken, John Gillespie, Southfield, Stirling
- 1878 Aitken, Mark, Traprain, Prestonkirk
- 1857 Aitken, Robt., Drumore, Campbell

**Admitted**

- 1869 Aitken, Robert, Kilmany, Cupar Fife  
 1860 Aitken, Thomas, 5 Grosvenor Crescent, Edinburgh  
 1854 Aitken, Thomas, Listonshiels, Balerno  
 1875 Aitkenhead, Alex., Shawmoss, Pollockshaws  
 1878 Aitkenhead, William, Roughlands, Larbert  
 1870 Alexander, Archd., Merchant, West Linton  
 1872 Alexander, Charles, Easter Knowe, Stobo  
 1872 Alexander, George, Easter Lilliesleaf, St Boswells  
 1876 Alexander, George, South Balnoon, Huntly  
 1831 ALEXANDER, Sir J. Edward, C.B., of Westerton, Bridge of Allan  
 1857 Alexander, James, of Redbraes, Edinburgh  
 1870 Alexander, James, of Balmule, Dunfermline  
 1875 Alexander, James, 60 North Street, Glasgow  
 1855 Alexander, John, Broughty Ferry  
 1876 Alexander, John, Solicitor, Lanark  
 1861 Alexander, Thomas, Corn Factor, Perth  
 1858 Alexander, Wm., Bent of Haulkerton, Laurencekirk  
 1865 Alison, James M., Redcastle, Inverness  
 1833 Allan, Alexander, Advocate, 5 Hillside Crescent, Edinburgh  
 1861 Allan, Alex., Kinnon Park, Methven, Perth  
 1864 Allan, Alexander, Carbars, Wishaw  
 1867 Allan, Andrew, Munnoch, Dalry, Ayr  
 1847 Allan, Lieut.-Colonel, Edinburgh  
 1874 Allan, James, Corn Merchant, Borrowstounness  
 1875 Allan, James, jun., Borrowstounness  
 1851 Allan, James, Gogar Mains, Corstorphine  
 1855 Allan, James, Clachlands, Lamash  
 1870 Allan, James, jun., Balnacole, Brodick, Arran  
 1877 Allan, James, Kirklands, Dunsyre  
 1854 Allan, John, Billie Mains, Ayton  
 1861 Allan, John, Crieffvechter, Crieff  
 1873 Allan, John, Redheugh, Cockburnspath  
 1878 Allan, John, Culthill, Dunkeld  
 1863 Allan, Richard, Howden, Jedburgh  
 1875 Allan, Robert, Glenmore, Kilmelford, Lochgilphead  
 1863 Allan, Robert A., Eyemouth  
 1852 Allan, T. W. Murray, of Glenfeochan, Oban

**Admitted**

- 1874 Allan, William, Clury, Grantown  
 1870 Allan, William, Drummondreoch, Ferintosh  
 1871 Allan, William, Park, Clackmannan  
 1830 Allan, William, Edinburgh  
 1873 Alston, David, Hyndford Wells, West Linton  
 1864 Alston, Geo., of Craighead, Hamilton  
 1850 Alston, John P., of Muirburn, Strathaven  
 1877 Anderson, Colonel, of Bourhouse, Dunbar  
 1838 ANDERSON, Sir Alexander, Aberdeen  
 1874 Anderson, Alexander, Berryhill, Dundee  
 1877 Anderson, Alexander Dunlop, of Ardshiel, Ballachulish  
 1866 Anderson, B. T. G., of Tushielaw, Selkirk  
 1873 Anderson, Arthur, M.D., C.B., Sunnybrae, Pitlochry  
 1877 Anderson, Charles, jun., *North British Agriculturist*, 377 High Street, Edinburgh  
 1878 Anderson, Charles, Barsalloch, Port William  
 1875 Anderson, Charles, Fettykil, Leslie  
 1825 Anderson, D., of Moredun, 24 Moray Place, Edinburgh  
 1877 Anderson, David, Cassindilly, Cupar Fife  
 1872 Anderson, Findlay, of Inchyra Grange, Polmont  
 1862 Anderson, Geo., of Woodhouse, Ecclefechan  
 1863 Anderson, George, of Hawthorn Bank, Selkirk  
 1859 Anderson, George B., Meikle Pinkerton, Dunbar  
 1861 Anderson, Henry, Burnside, Stanley  
 1873 Anderson, James, Ballimore, Tigh-na-bruaich  
 1863 Anderson, James, Newbigging, Dundee  
 1865 Anderson, James, Solicitor, Inverness  
 1871 Anderson, John, Airies, Kirkcinner  
 1873 Anderson, John, Chapel, Moffat  
 1838 Anderson, John, Merchant, London  
 1838 Anderson, John, Merchant, Glasgow  
 1857 Anderson, John, Craigton, Banchory  
 1868 Anderson, John, Mill of Wester Coull, Tarland  
 1857 Anderson, John, 14 Dean Terrace, Edinburgh  
 1859 Anderson, John, Smithstown, Croy, Kilsyth  
 1873 Anderson, John, Strachermore, Inveraray  
 1871 Anderson, John A., St Albans, Perth

Admitted

- 1876 Anderson, John M., Burngrains, Ellon  
1870 Anderson, John S. (of Whiteside, Dumfries), Dalhousie Mains, Dalkeith  
1851 Anderson, Lawrence, Northfield Cottage, Liberton  
1864 Anderson, Peter, Gillespie, Glenluce  
1878 Anderson, Peter, Duneaves, Fortingal  
1870 Anderson, Robert, Alleyford, Kirkgunzeon, Dumfries  
1856 Anderson, Robert, of Lochdhu, Nairn  
1871 Anderson, Robert, Middlebank, Errol  
1878 Anderson, Robert, Drumnakyle, Foss, Pitlochry  
1861 Anderson, Robt. H., Lynne Regis  
1850 Anderson, Robert Hood, Devonshire Club, London  
1877 Anderson, Robert John, Cattle Salesman, Ashgrove, Aberdeen  
1878 Anderson, R. Lang, Milliken Park, Renfrewshire—*Free Life Member*  
1858 Anderson, Robt. Wm., Clerk of Supply, Forfar  
1832 Anderson, Thomas, of Glendrisaig, Lainshaw House, Stewarton  
1878 Anderson, Thomas B., Solicitor, Dumfries  
1854 Anderson, T. Scott, W.S., 10 Norfolk Crescent, Hyde Park, London, W.  
1865 Anderson, William, Ballimore, Tighna-bruiach  
1867 Anderson, W. H., Clifton Villa, Anstruther  
1877 Anderson, William, Barneil, Kirk-michael, Maybole  
1857 Anderson, William, Hattonburn, Ban-chory  
1877 Anderson, William, Callochilly, Aros, Mull  
1873 Anderson, Wm., Norton Mains, Ratho  
1870 Anderson, William, Café Royal Hotel, Edinburgh  
1876 Anderson, William, Wardes, Kintore  
1876 Anderson, William, Wellhouse, Alford  
1857 Andrew, Hugh, Keprigan, Campbel-town  
1873 Andrew, Robert, Allans, Inchinnan, Paisley  
1870 Andrew, William J., Banker, Coat-bridge  
1875 Andrews, John, Land Steward, Melville, Ladybank  
1878 Andrews, John, junr., Pathcondie, Ladybank  
1863 Angus, John, Whitefield, Morpeth  
1871 Annan, David, The Torr, Moonzie, Cupar Fife  
1868 Annand, John, Hotel, Inverurie  
1872 ANSTRUTHER, Sir W. C. J. C., of Anstruther, Bart., M.P., Carmichael House, Thankerton

Admitted

- 1862 ANSTRUTHER, Sir Robert, of Balcaskie, Bart., M.P., Pittenweem  
1858 Anton, James, Seafeld, Forres  
1833 ARBUTHNOTT, Right Hon. Viscount, Arbuthnott House, Fordoun  
1864 ARBUTHNOTT, Hon. Mrs. Inchmartine  
1873 ARBUTHNOTT, Hon. The Master of, Arbuthnott House, Fordoun  
1855 Archbald, Thomas, of Viewbank, Lass-wade  
1864 Archer, Thomas, late Ramly Lodge, Lymington, Hants  
1876 Archibald, T. B., Nisbetfield, Lady-bank  
1869 Archibald, James, Glengelt, Lauder  
1861 Archibald, James, Jamestown House, Monasterevan, Co. Kildare, Ireland  
1869 Archibald, John, Duddingston, South Queensferry  
1844\* ARGYLL, His Grace the Duke of, K.T., Inveraray Castle, Inveraray  
1853 Arklay, John, late Gorthlick, Inverness  
1861 Arklay, Robert, of Ethiebeaton, Dundee  
1850 Arkley, R. H., Dun House, Montrose  
1879 Armour, John, Niddry Mains, Winch-burgh  
1862 Arnot, David, Friarton, Newport, Fife  
1871 Arnot, William, Glamis Mains, Glamis  
1865 Arnott, Thomas R., Carlshalton, Surrey  
1862 Arras, Walter, Fodderty, Dingwall  
1874 Arras, James Mather, Arderseir Mains, Arderseir  
1865 Arras, William, Nairn  
1858 Arundell, W.F.H., of Barjarg, Dumfries  
1873 Ashdown, A. H., Uppington, Salop—*Free Life Member*  
1874 Asher, William G. C., Belmaduthy, Munlochry  
1845 Askew, Henry Wm., late Conishead Priory, Ulverston  
1863 Askew, W., of Pallinsburn, Coldstream  
1860†ATHOLE, His Grace the Duke of, K.T., Blair Castle, Blair Athole  
1841 ATHOLE, Her Grace the Duchess-Dowager of, Dunkeld  
1877 Auld, Peter, Buteland, Balerno  
1878 Austin, James C., Ironhirst, Mous-wald, Dumfries  
1851 Austin, R. S., late Middleton, Muthill  
1873 AVELAND, Right Hon. Lord, Norman-ton Park, Oakham, Rutlandshire  
1875 Aveling, Thomas, Rochester, Kent  
1849 Aytoun, James, Advocate, London  
1844 Aytoun, Roger S., of Inchdairnie, Kirkcaldy  
1831 BAILLIE, Hon. Charles, Dryburgh House, St Boswells  
1824 Baillie, Evan, of Dochfour, Inverness  
1839 BAILLIE, Right Hon. Henry James, of Redcastle, Killearnan, Inverness



## Admitted

- 1851 Baillie, James William, of Culterallers, W.S., Biggar  
 1865 Baillie, John Menzies, C.A., 15 Northumberland Street, Edinburgh  
 1869 Baillie, John, Fullarton, Penicuik  
 1865 Baillie, John B., of Leys, Inverness  
 1847 BAILLIE, Sir William, of Polkemmet, Bart., Whitburn  
 1877 Bain, Alex., Factor, Coltness, Wishaw  
 1875 Bain, Daniel, Dunstaffnage, Oban  
 1875 BAIN, Sir James, 3 Park Terrace, Glasgow  
 1864 Bain, James, Banker, St Andrews  
 1875 Bain, Sam. F., Inch of Leckie, Gar-gunnock  
 1877 Bain, W. P. C., Lochrin Iron Works, Edinburgh  
 1878 Baird, Archibald, 67 Robertson Street, Glasgow  
 1868 Baird, Arthur E., late Croftenloan, Pitlochry  
 1876 Baird, Colin C., V.S., Veterinary College, Clyde Street, Edinburgh  
 1860 BAIRD, Sir David, of Newbyth, Bart., Prestonkirk  
 1877 Baird, Henry, Abbot's Grange, Falkirk  
 1875 Baird, Hugh, jun., 17 Westbourne Gardens, Glasgow  
 1876 Baird, James, Crosshill, Rutherglen  
 1843 BAIRD, Sir Jas. Gardiner, of Saughton Hall, Bart., Inch House, Liberton  
 1870 Baird, John, Hall, Kirkconnel, Sanquhar  
 1870 Baird, John, Solicitor, Lockerbie  
 1871 Baird, John, jun., Solicitor, Lockerbie  
 1877 Baird, John W., 26 South Back of Canongate, Edinburgh  
 1873 Baird, Thomas, Hundleshope, Peebles  
 1873 Baird, William, of Elie, Fife  
 1873 BALFOUR of Burleigh, Right Hon. Lord, Kennet House, Clackmannan  
 1863 Balfour, Arthur J., of Whittinghame, M.P., Prestonkirk  
 1843 Balfour, Colonel David, of Balfour and Trenabie, Kirkwall  
 1857 Balfour, Major Francis W., of Fernie Castle, Ladybank  
 1839 Balfour, John, of Balbirnie, Markinch  
 1839 Balfour, Prof. John Hutton, M.D., Edinburgh  
 1869 Balfour, John M., of Pilrig, W.S., Edinburgh  
 1873 Balfour, Lieut.-Col. Robt. Fred., younger of Balbirnie, Markinch  
 1860 Ballantyne, John, jun., Seedsman, Dalkeith  
 1869 Ballantyne, Thomas, Netherton, East Kilbride  
 1870 Ballingal, And. H., W.S., Perth  
 1871 Ballingal, Neil, Sweetbank, Markinch  
 1859 Ballingal, Wm., Sweetbank, Markinch

## Admitted

- 1857 Ballingall, D., Factor, Blairdrummond  
 1860 Ballingall, George, Clarilaw, St Boswells  
 1861 Ballingall, John, Dunbog, Newburgh  
 1863 Balmer, Thomas, Fochabers  
 1862 Bankes, Meyrick, of Letterewe, Dingwall  
 1859 Barbour, G. F. (of Bonskeid, Pitlochry), 11 George Square, Edinburgh  
 1878 Barbour, Robert, Gillfoot, Kirkbean, Dumfries  
 1858 Barclay, Charles A., Aberdour House, Fraserburgh  
 1855 Barclay, George, Davochbeg, Golspie  
 1858 Barclay, George, Yonderton, Turriff  
 1834 Barclay, George Robertson, late of Keavil, Dunfermline  
 1862 Barclay, J. W., M.P., 60 Dee Street, Aberdeen  
 1859 Barclay, Robert, Drums, Falkland  
 1865 Barclay, Thomas, Skelbo, Dornoch  
 1839 Barker, Thomas, Sydney, Australia  
 1862 Barr, James, jun., Whiteshaw, Carlisle  
 1875 Barr, William, Kerrylamont, Rothesay  
 1863 Barrie, James, Harden Mains, Jedburgh  
 1846 Barstow, Charles M., C.A., 32 Ind<sup>st</sup> Street, Edinburgh  
 1867 Bartholomew, Hugh, of Glenorchy, Torrance of Campsie  
 1855 Bartholomew, Jas., Duntarvie, Winchburgh  
 1875 Bartlemore, Robert, Netherhouses, Lochwinnoch  
 1873 Barty, James W., Procurator-Fiscal, Dunblane  
 1878 Bate, John, of Broadchapel, Lochmaben  
 1865 Bateson, Sam. S., 17 Bolton Street, London  
 1861 Bathgate, James, Ormiston, Tranent  
 1877 Bathie, William, Auctioneer, Arbroath  
 1873 Bauchope, Thomas, Land Surveyor, East Brucefield, West Calder  
 1877 Baxter, David, Ladyburn, Maybole  
 1854 Baxter, Edmund, W.S., 9 Rutland Square, Edinburgh  
 1875 Bayley, George, of Manuel, 13 Regent Terrace, Edinburgh  
 1864 Bayne, John, Builder, Bridge of Allan  
 1869 Bayne, Lewis, Kimmel Park, Abergele  
 1876 Bean, Alex., Netherthird, Rothie Norman  
 1876 Bean, George, Balquhain, Inverurie  
 1876 Bean, William, Newton Cairnie, Huntly  
 1868 Beath, David, Auchmuir, Leslie  
 1872 Beattie, Adam, Builder, 15 Grosvenor Street, Edinburgh

**Admitted**

- 1854 Beattie, James, Newbie House, Annan  
 1870 Beattie, Jn., Bulmansknowe, Canonbie  
 1877 Beattie, Simon, Preston Hall, Annan  
 1878 Beattie, William J.P., Newbie, Annan  
 1875 Beck, Thomas Coker, Foleshill, Coventry—*Free Life Member*  
 1876 Beedie, James, The Mains, Ardlaw, Fraserburgh  
 1876 Beedie, William, Pitgair, Fisherie, Turriff  
 1871 Begbie, Joshua Arthur Howard, Esplin Cottage, Morningside  
 1858 Begg, John, Distiller, Lochnagar, Aberdeen  
 1873 Begg, Robert, Blarnie, Luss  
 1873 Begg, Robert Burns, Sheriff-Clerk, Kinross  
 1871 Beith, Donald, W.S., 15 Grosvenor Crescent, Edinburgh  
 1877 Beith, Gilbert, Ballochneck, Buchlyvie  
 1871 Belfrage, A.W., C.E., 31 Aun Street, Edinburgh  
 1849 Belfrage, G., 47 George IV. Bridge, Edinburgh  
 1849 Belfrage, James, Samuelstown East Mains, Haddington  
 1867 Bell, Alexander, Linton, Kelso  
 1868 Bell, Alexander, Stobahill, Lockerbie  
 1872 Bell, And., late Fans, Earlstoun  
 1856 Bell, David, Todhall, Cupar Fife  
 1871 Bell, George, Barns of Claverhouse, Dundee  
 1863 Bell, Jas., 67 Rodney Street, Liverpool  
 1871 Bell, John (of Castlecreavie), 47 Great King Street, Edinburgh  
 1876 Bell, John, Maryhilllock, Fraserburgh  
 1871 Bell, M. Montgomery, W.S., 22 Coates Crescent, Edinburgh  
 1846 Bell, R., of Lunna, Belmont, Falkirk  
 1869 Bell, Robert, Phospho Guano Co., Seacombe, Cheshire  
 1856 Bell, Thomas, Ballinshoe, Kirriemuir  
 1865 Bell, Thomas, Craighkennoch, Burnt-island  
 1877 Bell, Thomas, (Messrs Robey & Co.), Lincoln  
 1871 Bell, William, of Gribdæ, Kirkcudbright  
 1869 Bell, William, Keanacoil, Dunkeld  
 1876 Bell, William, Sheriffslats, Biggar  
 1878 Bell, William, Todholes, Annan  
 1877 Bennet, Arthur, Bogside, Cardenden, Fife  
 1858 Benton, Joseph, Cattie, Whitehouse  
 1858 Benton, William, Harthill, Whitehouse  
 1860 Berry, George, Longleat, Horningsham Warminster, Wilts  
 1863 Berry, Walter, 11 Athole Crescent, Edinburgh  
 1877 Bertram, David N., St Katherine's Works, Sciennes Street, Edinburgh

**Admitted**

- 1864 Bertram, James, Addinston, Lauder  
 1874 Bertram, John, Hartside, Lauder  
 1854 Bertram, John S., Cranshaws, Dunse  
 1854 Bertram, T. Hardy, C.E., 1 Foxgrave Road, Beckenham, Kent  
 1852 Bertram, William, of Nisbet, Biggar  
 1877 Bertram, William, St Katherine's Works, Sciennes Street, Edinburgh  
 1861 Berwick, David, Collairnie, Newburgh, Fife  
 1878 Berwick, John, Allanbank, Dumfries  
 1876 Best, John, Inveravon, Polmont  
 1857 Bethune, Admiral, of Balfour, C.B., Markinch  
 1848 Bethune, Alex., of Blebo, Cupar Fife  
 1863 Bethune, Major R., of Nydie, St Andrews  
 1864 Bethune, Murdo, Dingwall  
 1861 Bett, David Inches, Newhall, Coupar-Angus  
 1857 Bett, James, Bolfracks, Aberfeldy  
 1859 Beveridge, David, Buckthorns, Largo  
 1862 Beveridge, George, 248 High Street, Kirkcaldy  
 1851 Beveridge, Jas., of Balado, Kinross  
 1869 Beveridge, Jas., Crombie, Dunfermline  
 1853 Beveridge, Robert E., 8 Spence Street, Newington, Edinburgh  
 1872 Beveridge, William, of Bonnyton, Dunfermline  
 1862 Beveridge, William, 248 High Street, Kirkcaldy  
 1872 Bickerton, Richard, Berwick-on-Tweed  
 1878 Biggar, James, Grange Farm, Dalbeattie  
 1858 Biggar, T., of Chapelton, Dalbeattie  
 1859 Binnie, John, Birnieknows, Cockburnspath  
 1877 Binnie, Thomas, Auction Mart, Falkirk  
 1875 Binny, Andrew, 9 Hart Street, Edinburgh  
 1865 Binny, Graham, W.S., 9 Hart Street, Edinburgh  
 1874 Bird, Ebenezer, Glenduckie, Newburgh, Fife  
 1858 Bird, James B., Fishwick, Paxton  
 1875 Birse, John, Summerfield, St Ola, Orkney  
 1874 Biscoe, T. Ramsay, of Newton, Inverness  
 1862 Bisset, The Ven. Archdeacon, Lessendrum, Huntly  
 1879 Bisset, Alexander, Farm Manager, Balfarg, Markinch  
 1873 Bisset, Hugh, Pittarrow, Laurencekirk  
 1873 Bisset, Thomas S., Agricultural Engineer, Blairgowrie  
 1860 Bisset, W. A., East Wemyss, Kirkcaldy  
 1865 Black, Alex., Shotover Estate Office, Wheatley, Oxon

## Admitted

- 1875 Black, Gavin, Coalmaster, Easter Moffat, Airdrie  
 1877 Black, George, Sea-View Works, Berwick-on-Tweed  
 1879 Black, Bailie George, Banker, Inverness  
 1877 Black, James, of Auchentoshan, Duntocher  
 1871 Black, James, *Elgin Courier* and *Courier*, Elgin  
 1851 Black, James, London  
 1875 Black, John, Coalmaster, Airdrie  
 1859 Black, John, Setonhill, Longniddry  
 1859 Black, John, Ford, Westfield, Cornhill, Northumberland  
 1876 Black, John, Cortachy, Kirriemuir  
 1844 Black, Robert, Glasgow  
 1867 Black, Robert, Liberton Mains, Liberton  
 1878 Black, Thomas, CraigenCrook, Stranraer  
 1877 Black, William Connel, of Kailzie, Peebles  
 1876 Blackburn, James, Killearn House, Glasgow  
 1870 Blacklaw, Alex. Scott (late Milton of Arbuthnot, Fordoun), Brazil  
 1855 Blackley, John, 107 Bath Street, Glasgow  
 1857 Blacklock, Adam, late Minnygap, Moffat  
 1870 Blackstock, John, Haytoun Castle, Maryport  
 1875 Blackwood, Alex., Eshiels, Peebles  
 1842 Blackwood, John, Publisher, 45 George Street, Edinburgh  
 1862 Blackwood, William, Publisher, 45 George Street, Edinburgh  
 1854 Blair, Campbell, 36 Elmbank Crescent, Glasgow  
 1850 BLAIR, Sir Edward Hunter, of Blairquhan, Bart., Maybole  
 1869 Blair, E. J. Stopford, of Penninghame, Newton Stewart  
 1860 Blair, James, of Glenfoot, Tillicoultry  
 1864 Blair, James, Aberfoyle  
 1874 Blair, John, W.S., 25 Greenhill Gardens, Edinburgh  
 1874 Blair, Patrick, Advocate, Sheriff-Substitute, Inverness  
 1879 Blair, Patrick, W.S., 7 York Place, Edinburgh  
 1844 Blair, Captain William Fordyce, of Blair, R.N., Dalry  
 1876 Blake, John, Dunrobin Mains, Golspie  
 1873 Bland, Thomas, Golden Dog Lane, Norwich, Norfolk  
 1836 Blane, Colonel Robert, C.B.  
 1847 Blanshard, George, Smith's Place, Edinburgh  
 1843 BLANTYRE, Right Hon. Lord, Erskin House, Glasgow

## Admitted

- 1877 BLANTYRE, The Hon. the Master of, Seiberscross, Rogart  
 1861 Blues, Andrew A., Dalruscan, Tinwald, Dumfries  
 1872 Blythe, William, Whitrigs, Hawick  
 1851 Bogie, J., Balcanquhal, Auchtermuchty  
 1863 Bolam, John, Chathill, Northumberland  
 1866 Bolam, Robert George, Berwick-on-Tweed  
 1858 Bolton, Joseph C., of Carbrook, Larnbert  
 1867 Bone, Quintin, Greenan, Ayr  
 1853 Bontine, Wm. Cuninghame Graham, of Gartmore, Stirling  
 1870 Boog, Thomas Elliott, Timpendean, Jedburgh  
 1842 Booth, Jas. Godfrey, Seed Merchant, Hamburg  
 1878 Boothby, Robert Cunningham, Hyndhope, Selkirk  
 1875 Borland, Arch., Stewarton Street, Wishaw  
 1878 Borland, John, Auchencairn, Closeburn, Thornhill  
 1862 Borland, Robert, Auchencairn, Closeburn  
 1873 Borthwick, Alex. Hay, Hopsrig, Langholm  
 1854 Borthwick, Gilbert, Barelees, Coldstream  
 1858 Borthwick, John, V.S., Kirkliston  
 1846 Borthwick, John, of Crookston, Heriot  
 1859 Borthwick, John James M., Lynholm, Langholm  
 1838 Borthwick, Thomas Chalmers, Hopsrig, Langholm  
 1858 Borthwick, Wm. Henry, late Crookston, Gorebridge  
 1865 Borthwick, Wm., Whitehaven Castle, Whitehaven  
 1864 Borton, John, Barton House, Malton  
 1858 BOSWALL, Sir Geo. Houston, of Blackadder, Bart., Chirnside  
 1876 Bower, Alfred Lance, Strathaird House, Broadford  
 1863 Bowhill, James, Banker, Ayton  
 1854 Bowie, Alexander, Mains of Kelly, Arbroath  
 1875 Bowie, Robert, Parkhead, Linlithgow  
 1875 Bowie, Robert, Seedsman, 60 West Howard Street, Glasgow  
 1859 Bowman, James, Newark, St Monance  
 1863 BOWMONT, Most Noble the Marquis of, Floors Castle, Kelso  
 1865 Boyd, Colonel James Hay, of Townend, Symington, Kilmarnock  
 1872 Boyd, John, Simprin Mains, Coldstream

Admitted

- 1861 Boyd, John B., of Cherrytrees, Kelso  
 1863 Boyd, Wm. B., Ormiston, Kirkbank, Kelso  
 1875 Brackenridge, Alex., V.S., Stevenston Mains, Holytown  
 1869 Brakenridge, William, Rogerthorpe Hall, Pontefract  
 1865 Braid, Andrew, Humbie, Kirknewton  
 1878 Bramwell, John, Marionburgh, Ballindalloch—*Free Life Member*  
 1858 Brand, Charles, Mains of Fordoun, Fordoun  
 1872 Brand, James, Dunbar  
 1855 Brash, James, Hallyards, Kirkliston  
 1876 Brebner, Alexander, Balquhindochy, Methlic  
 1876 Brebner, Robert, Lumbs, Lonmay, Aberdeen  
 1878 Brechin, James, 1 West Newington Terrace, Edinburgh  
 1872 Breingan, Alex., Helensburgh  
 1872 Brigham, John, Castle Gate Implement Works, Berwick-on-Tweed  
 1865 Brims, James, Thurso  
 1878 Broadfoot, Peter, West Mains, Kirkinner  
 1868 Broadwood, Thomas, of Fulfordlees, Crowhill, Dunbar  
 1878 Broatch, George, Thwait, Annan  
 1876 Brock, J. E., East Overton, Kirkliston  
 1874 Brock, John, Aukhorne, Wick  
 1873 Brock, William, Barns of Clyde, Yoker  
 1857 Brockley, Robert M., Gourlaw, Rosewell  
 1875 Brodie of Brodie, Brodie Castle, Forres  
 1859 Brodie, James, 9 Nelson Street, Edinburgh  
 1848 Brodie, James C., Thortonloch, Dunbar  
 1869 Brodie, James W., Cloheen, Buttevant, Co. Cork  
 1872 Brodie, John, Palacehill, Ancrum, Jedburgh  
 1840 Brodie, J. Clerk, of Idvies, W.S., 26 Moray Place, Edinburgh  
 1874 Brodie, J. C. J., of Lethen, Nairn  
 1877 Brodie, Thomas Dawson, of Gairdoch, W.S., 9 Ainslie Place, Edinburgh  
 1878 Brodie, William, of Bush, Barkerland, Dumfries  
 1879 Brook, Edward, Hoddam Castle, Ecclefechan; Meltham Hall, Huddersfield  
 1874 Brooke, A. B., Cardney, Dunkeld  
 1855 Broomfield, Thomas, Lauder  
 1867 Bromfield, W. J., Old Greenlaw, Greenlaw, Dunse  
 1875 Brothie, George, of Firbo, Firbo House, Westray, Kirkwall

Admitted

- 1854 Broughton, Robert Henry, of Rowchester, Greenlaw  
 1863 Brown, Adam (late Helmburn, Selkirk), Devonshire  
 1844 Brown, Alex. J. Dennistoun, of Balloch, Balloch Castle, Dumbarton  
 1873 Brown, Alexander, Banker, Oban  
 1852 Brown, Andrew, M.D., late Edinburgh  
 1879 Brown, Andrew, Factor for the Earl of Zetland, Kerse, Falkirk  
 1858 Brown, Archibald, Craig, Udny  
 1874 Brown, Archibald C., Gladstone, Bishopton  
 1866 Brown, David, Banker, Maybole  
 1878 Brown, David, Ellerslie, Kirkmahoe  
 1871 Brown, George, Grassmiston, Crail  
 1839 Brown, George, Watten Mains, Watten  
 1851 Brown, George, of Westfield, Cupar Fife  
 1860 Brown, James, Hardgrave, Lockerbie  
 1865 Brown, James, Whinpark, Kilmarnock  
 1861 Brown, Jas., Leuchars Castle, Leuchars  
 1877 Brown, George, 57 Hanover Street, Edinburgh  
 1855 Brown, James, 80 South Portland Street, Glasgow  
 1873 Brown, James Geddes, Distiller, Keith  
 1877 Brown, James, Weston, Dunsyre  
 1878 Brown, James, of Orchard, Carluke  
 1878 Brown, James Greig, Mouswald, Dumfries  
 1837 Brown, James T., late of Auchinlochan, Lesmahagow  
 1872 Brown, John, Blinkbonny, Gorebridge  
 1857 Brown, John, Boghall, Biggar  
 1876 Brown, John, of Colton, Dunfermline  
 1860 Brown, John, Ingliston, Dumfries  
 1877 Brown, John, Lissensmoss, Kilwinning  
 1878 Brown, John, Airds of Kirkconnell, New Abbey  
 1852 Brown, John George, Cluny Cottage, Pitlochry  
 1878 Brown, John Gordon, Lochanhead, Dumfries  
 1878 Brown, John H., Aberchalder, Fort Augustus  
 1860 Brown, John C., Between-the-Waters, Ecclefechan  
 1870 Brown, Jos., Hermitage, Dalbeattie  
 1878 Brown, Joseph, Suttiewalls, Fordoun  
 1877 Brown, Malcolm, late The Murrays, Ormiston  
 1832 Brown, Matthew, Greenock  
 1861 Brown, Oliphant, Shiel, New Galloway  
 1856 Brown, Peter, Craigton, Bishopton  
 1871 Brown, Peter, Milton of Luncarty, Redgorton  
 1866 Brown, Robert E., F.G.S., Farnley Hall, Otley, Yorkshire

**Admitted**

- 1875 Brown, Thomas, Pentland Mains, Loanhead  
 1849 Brown, Thomas, Weston, Dunsyre, Dolphinton  
 1863 Brown, Thos., late Locherlour, Crieff  
 1863 Brown, Thomas, 4 Carlung Place, Edinburgh  
 1877 Brown, Thomas Morris, Achnacarry, Fort-William  
 1871 Brown, William, Factor, Earlsmill, Forres—*Free Life Member*, 1873  
 1855 Brown, Dr William, late Melrose  
 1872 Brown, William, Parkgatestone, Biggar  
 1854 Brown, William, Linkwood, Elgin  
 1873 Brown, William, Pitnamoon, Laurence-kirk  
 1874 Browne, A. H., Doxford Hall, Chathill, Northumberland  
 1873 Browne, Colville, Park House, Long Melford, Suffolk—*Free Life Member*  
 1875 Brownlee, James, East Whitburn Farm, Whitburn  
 1872 Brownlie, Alex., Haughhead, Earlstoun  
 1877 Brownlie, James, Nether Alderston, Mid-Calder  
 1877 Brownlie, Robert, Bogside, Newmains, Carluke  
 1875 Brownlie, Thomas, 182 Hope Street, Glasgow  
 1868 Bruce, Alex., Millhill, Mintlaw  
 1874 Bruce, Andrew Hamilton Tyndall, of Falkland, Ladybank  
 1878 Bruce, David C., Broadlands, Huntly  
 1877 Bruce, Edward, 26 Greenside Place, Edinburgh  
 1864 Bruce, George, Pennan Farm, Banff  
 1868 Bruce, George, Heatherwick, Keith Hall  
 1874 Bruce, George, Wealthiton, Keig, Aberdeenshire  
 1871 Bruce, George C., C.E., 7 Buckingham Terrace, Edinburgh  
 1875 Bruce, Henry, of Ederline, Lochgilphead  
 1865 Bruce, James, Burnside, Fochabers  
 1876 Bruce, James, Collithie, Gartly  
 1869 Bruce, Jas., Longbridgemoor, Annan  
 1868 Bruce, J., Inverquhomery, Mintlaw  
 1829 Bruce, John, of Sumburgh, Lerwick  
 1863 Bruce, J., jun., Sumburgh, Lerwick  
 1842 Bruce, John, W.S., 7 Melville Crescent, Edinburgh  
 1876 Bruce, Peter, Myreton, Insch, Aberdeen  
 1868 Bruce, Robert, Manor House Farm, Great Smeaton, Northallerton  
 1871 Bruce, Robert, Uddingston  
 1875 Bruce, Hon. Robt. Preston, Broomhall, Dunfermline  
 1852 Bruce, Hon. Thomas Charles, M.P., 13 Hertford Street, Mayfair, London  
 1855 Bruce, Thomas, of Arnot, Kingsdale, Kennoway

**Admitted**

- 1864 Bruce, Sir William C., of Stenhouse, Bart., Falkirk  
 1875 Bruce, William L., Glenkill, Lam-lash  
 1870 Bruges, Edward C., Dalgig, New Cumnock  
 1866 Brunton, James, Broomlands, Kelso  
 1867 Brunton, J. S., Ladhope House, Gala-shiels  
 1870 Bryan, F. G. D., Drumpellier, Coat-bridge  
 1878 Bryce, Andrew, Craigentenny, Jock's Lodge, Edinburgh  
 1865 Bryce, James, East Whitburn, Whitburn  
 1877 Bryce, William C., 26 South Back of Canongate, Edinburgh  
 1862 Brydon, Adam, Netherbarns, Gala-shiels  
 1864 Brydon, H., Thirlestane Hope, Selkirk  
 1850 Brydon, James, Kinnelhead, Moffat  
 1864 Brydon, James, jun., Holm of Dalquhairn, Dalry, New Galloway  
 1873 Brydon, Robert, The Dene, Seaham Harbour—*Free Life Member*  
 1878 Brydon, William, Ironmonger, Lockerbie  
 1879 Brydone, Walter S., Land Steward, Portmore, Eddleston  
 1877 Bryson, Robert, 66 Princes Street, Edinburgh  
 1850 Bryson, Robert, Merchant, Glasgow  
 1852 Bryson, W. G., Cullen House, Cullen  
 1838\*†BUCCLEUCH and QUEENSBERRY, His Grace the Duke of, K.G., Dalkeith  
 1835 BUCCLEUCH and QUEENSBERRY, Her Grace the Duchess of  
 1854 Buchannan, A., Whitehouse, Stirling  
 1857 Buchanan, Alex., Norwood, Milngavie  
 1827 Buchanan, Andrew, of Mount Vernon, Shettleston  
 1838 Buchanan, Andrew, of Auchintorlie, Bowling  
 1870 Buchanan, Archibald, Barskimming, Mauchline  
 1849 Buchanan, Lieut.-Col. David C. R. Carrick, of Drumpellier, Coatbridge  
 1873 Buchanan, David, Garscadden Mains, New Kilpatrick  
 1853 Buchanan, Dun., Auchenbreck, Colintraive, Greenock  
 1877 Buchanan, D. McL. B., of Boquhan, Killearn  
 1878 Buchanan, Francis Wellesley, Leny, Callander  
 1873 BUCHANAN, Sir Geo. H. Leith, of Ross, Bart., Ross Priory, Alexandria  
 1851 Buchanan, Isaac, Hamilton, Canada  
 1838 Buchanan, James, Glasgow  
 1876 Buchanan, Captain James R. Gray, of Scotstone, Western Club, Glasgow  
 1833 Buchanan, John, London

Admitted

- 1844 Buchanan, J., Coneyhill House, Bridge of Allan  
 1872 Buchanan, John, G.E., 24 George Street, Edinburgh  
 1877 Buchanan, John, Blairessan, Killearn  
 1876 Buchanan, Robt., Blairquhosh, Strathblane  
 1876 Buchanan, Robert, Letter Farm, Killearn  
 1864 Buchanan, Robert M., Livingston Mill, Mid-Calder  
 1842 Buchanan, Walter, Glasgow  
 1828 Buchanan, Wm., Merchant, Glasgow  
 1875 Buchanan, William, 391 Parliamentary Road, Glasgow  
 1842 Buist, James, of Lawpark, St Andrews  
 1863 Buist, Robert, Cattle Salesman, 11 West Lauriston Place, Edinburgh  
 1865 Bulloch, Ar., Milliken, East Kilpatrick  
 1875 Bulloch, Matthew, 11 Park Circus, Glasgow  
 1870 BURDETT-COURTIS, Right Hon. Baroness, Ehrenberg Hall, Torquay  
 1874 Burn, Forbes, Hardacres, Coldstream —Free Life Member  
 1863 Burn, John, Ednam, Kelso  
 1873 Burness, Wm., Redford, Laurencekirk  
 1877 Burnet, James, Dolphington, Cramond Bridge  
 1877 Burnett, Alex. E., W.S., 7 Howe Street, Edinburgh  
 1867 Burnett, Major-General Francis Claude, of Gadgirth, Tarbolton  
 1848 Burnett, George, Advocate, 21 Walker Street, Edinburgh  
 1858 BURNETT, Sir Robert, of Leys, Bart., Crathes Castle, Banchory  
 1838 Burnley, W. F., 24 Ainslie Place, Edinburgh  
 1872 Burns, And., Harelaw, Longniddry  
 1865 Burns, Jas. C., of Glenlee, Hamilton  
 1865 Burns, J., of Castle Wemyss, Greenock  
 1861 Burns, John William, of Kilmahew, Cardross  
 1875 Burr, Alexander, Tulloford, Old Mel-drum  
 1877 Burr, John W., Netherton, Fyvie, Aberdeen  
 1867 Burr, Rev. P. Lorimer, Lundie Manse, Dundee  
 1873 Burrell, James, Denovan Mains, Denny  
 1854 Burroughs, Col. F. W. Traill, C.B., of Rousay, Orkney  
 1867 Burton, J. Tait, of Toxside, 23 Greenhill Gardens, Edinburgh.  
 1857 Burton, J., Rosewell Mains, Rosewell  
 1869† BUTE, Most Noble the Marquis of, K.T., Mount Stuart, Rothesay  
 1861 Buttar, David, Corston, Coupar-An  
 1877 Butter, Albert, Union Bank, Edinburgh  
 1825 Butter, Arch., of Faskally, Pitlochry

Admitted

- 1869 Butter, Colonel Archibald, yr. of Faskally, Killiecrankie House, Pitlochry  
 1877 Butters, Archd., Van Mildert House, Lenzie  
 1876 Buyers, James, junior, Easter Brakie, Arbroath  
 1878 Byres, James Edward, Greenrae, Canonbie  
 1844 Cadell, Alex. Todd, R.A., V.C., Madras  
 1856 Cadell, Henry, of Grange, Bo'ness  
 1869 Cadzow, James, Clarendon, Linlithgow  
 1872 Cadzow, Robt., Thornhill, Carmichael, Lanark  
 1869 Caird, Alex. M'Neel, Genoch, Dunragit, Wigtownshire  
 1878 Caird, Alex. M'Neel, junior, Kilmun  
 1853 Caird, James, of Cassencarrie, C.B., 8 Queensgate Gardens, London  
 1864 Cairns, James, Balquharn, Menstrie  
 1870 Cairns, John, Parkhill House, Newburgh, Fife  
 1861 Cairns, William, Belhie, Auchterarder  
 1871 Cairns, Robert, Bertha Park, Perth  
 1845† CAITHNESS, Right Hon. the Earl of, Barrogill Castle, Wick  
 1872 Calder, Adam, Halterburn, Kelso  
 1853 Calder, Francis, Yetholm Mains, Kelso  
 1857 Calder, James, Colgrain, Cardross  
 1870 Calder, John, Muirton, Elgin  
 1846 Calder, Marcus, Elwickbank, Kirkwall  
 1857 Calder, Robert, Little Swinton, Coldstream  
 1858 Calder, R., Whitehouse, Lumphnan  
 1851 Calder, W., Cattle Salesman, 19 Archibald Place, Edinburgh  
 1872 Calder, W. A., Oxenrig, Coldstream  
 1841 Caldwell, Fred., of Missinish, 4 Hanover Terrace, Regent's Park, London  
 1878 Caldwell, Hugh, of Braes, Kilbarchan  
 1862 Caldwell, Wm., Boydstone, Ardrossan  
 1865 Cameron, Alex. (of Mainhouse), Highfield, Elgin  
 1859 Cameron, Donald, of Lochiel, M.P., Achnacarry, Fort-William  
 1861 Cameron, D. Colin, Tallisker, Broadford, Skye  
 1869 Cameron, Duncan, Banker, Thurso  
 1877 Cameron, Duncan, Kinloch Rannoch  
 1878 Cameron, Hugh Ewen, Clunes, Fort-William  
 1857 Cameron, James, Balnakyle, Munlochry  
 1878 Cameron, Dr James Angus, of Firhall, Nairn  
 1871 Cameron, John, Glackeriska, Appin  
 1876 Cameron, J. C., of Garrows, Amulree, Dunkeld  
 1850 Cameron, Peter, 6 Regent Terrace, Edinburgh  
 1862 Cameron, William, Edinburgh

## Admitted

- 1845 CAMPBELL, Sir Alex., of Barcaldine, Bart.  
 1837 Campbell, Alex., of Auchindarroch, Lochgilphead  
 1885 Campbell, Alexander, of Cammo, 6 Charlotte Square, Edinburgh  
 1868 Campbell, Alex. (late Blairton), Aberdeen  
 1863 Campbell, A. H., of Little Grove, Herts  
 1857 Campbell, Lt.-Col. Archd., of Blythwood, Renfrew  
 1868 Campbell, A., Dunmore Park, Stirling  
 1865 Campbell, Lt.-Col. A. H., Ochertyre, Stirling  
 1865 Campbell, Lt.-Col., of South Hall, Greenock  
 1878 Campbell, Angus, Soroba, Oban  
 1854 Campbell, Arthur, of Catrine, W.S., 4 Randolph Crescent, Edinburgh  
 1876 CAMPBELL, Sir Archibald S. L., of Succoth, Bart., 23 Moray Place, Edinburgh  
 1864 Campbell, C. Macpherson, of Ballimore, Dalvey, Forres  
 1853 Campbell, Chas. V. H., of Nether Place, Mauchline  
 1847 Campbell, C., of Colgrain, Camis Eshan House, Helensburgh  
 1838 Campbell, C. G., of Stonefield, Tarbert  
 1858 Campbell, Rear-Admiral Colin Yorke, of Barbreck, Lochgilphead  
 1875 Campbell, Captain Duncan, of Inverneil and Ross, Ardrishaig  
 1868 Campbell, Captain D. P. (of Balliveolan, Bonaw), New Club, Edinburgh  
 1878 CAMPBELL, Sir Donald, of Dunstaffnage, Bart., Oban  
 1857 Campbell, Donald, Killimore, Aros  
 1858 Campbell, D. T., Duiletter, Dalmally  
 1839 Campbell, Farquhar (of Rum), New Club, Edinburgh  
 1871 Campbell, George, Rhodes, North Berwick  
 1873 Campbell, George, Kilkea, Magency, Co. Kildare—*Free Life Member*  
 1863 Campbell, George William, late Mayfair, London  
 1835 Campbell, Colonel George J., of Cessnock, Treesbank House, Kilmarnock  
 1867 Campbell, Hector A. (of Auchnacloich, Oban), Ardfenaig, Bunessan, Mull  
 1834 CAMPBELL, Sir Hugh Hume, of Marchmont, Bart., Dunse  
 1838 CAMPBELL, Sir James, of Abernuchil, Bart., Wheatmead Park, Lydney  
 1875 Campbell, James, Rose Bank, Gatehouse  
 1838 Campbell, James, London  
 1847 Campbell, J., of Tillichewan, Alexandria  
 1877 Campbell, Jas., Ormaig, Lochgilphead  
 1833 Campbell, James Archibald, of New Inverawe, Rugby  
 1849 Campbell, James A., of Stracathro, Brechin

## Admitted

- 1860 Campbell, James G., of Killyleoch, 23 Windsor Street, Edinburgh  
 1874 Campbell, John, of Kilberry, Tarbert  
 1848 Campbell, John, of Possil, Torquay  
 1846 Campbell, J. L., of Achalader, Blairgowrie  
 1874 Campbell, John, 15 Exchange Square, Glasgow  
 1857 Campbell, Jn., Rhemeul, Campbeltown  
 1857 Campbell, John, of Inverardoch, Doune  
 1877 Campbell, John, Glenforsa, Aros, Mull  
 1865 Campbell, John D., of Peaton, Clachan, Roseneath, Helensburgh  
 1863 Campbell, John Graham, of Shirvan, Castleton, Lochgilphead  
 1875 Campbell, John R., Inveruglas, Arrochar  
 1877 Campbell, John Stephen Deans, of Corraith, Ayrshire  
 1863 Campbell, Neil Colquhoun, of Barnhill, Sheriff of Ayr, 81 Great King Street, Edinburgh  
 1838 Campbell, Ord Graham, 5 Oxford Terrace, Edinburgh  
 1861 Campbell, R. F. F., of Craigie, Ayr  
 1877 Campbell, Robert Hume, of Glendaruel, Argyllshire  
 1858 Campbell, Silvester, Kinellar, Blackburn, Aberdeen  
 1876 Campbell, Silvester, jun., Kinellar, Blackburn, Aberdeen  
 1860 Campbell, Thos., Croftness, Aberfeldy  
 1863 Campbell, T. H., of Millfield, Polmont  
 1856 Campbell, T. W., of Walton Park, Dalbeattie  
 1858 Campbell, William, Solicitor, 14 Almada Street, Hamilton  
 1861 Campbell, W., Cladville, Islay  
 1878 Campbell, William, Carterton, Lockerbie  
 1871 CAMPERDOWN, Right Hon. the Earl of, Camperdown, Dundee  
 1877 Cannon, John, Congeith, Kirkgunzeon  
 1863 Cant, James, Orr Bridge, Kirkcaldy  
 1879 Cantlie, Charles A., Keithmore, Dufftown  
 1850 Carfrae, T., Land Surveyor, 9 Osborne Terrace, Edinburgh  
 1845 Carlyle, T. J., of Templehill, Waterbeck, Ecclefechan  
 1856 CARMICHAEL, Sir William H. Gibson, of Castle Craig and Skirling, Bart., Dolphinton  
 1871 Carmichael, William, Pool, Carnwath  
 1856 CARNEGIE, Hon. Charles, Kinnaird Castle, Brechin  
 1847 Carnegie, D., of Stronvar, Lochearnhead  
 1869 Carnegie, Henry L., of Kinblethmont, Arbroath  
 1852 Carnegie, James, W.S., 16 Windsor Street, Edinburgh

Admitted

- 1873 Carnegie, John (late Grain Agent, Stirling), Sweden  
 1858 Carnegie, William, of Eastertown, Dunlappie, Brechin  
 1858 Carnegie, W., junior, Coul, Forfar  
 1850 Carnegie, John, Glasgow  
 1861 Carphin, George, Banker, Dunkeld  
 1869 Carphin, Jas. Rhind, C.A., 31 George Street, Edinburgh  
 1878 Carr, Robert, Felkington, Norham, Berwick-on-Tweed—*Free Life Member*  
 1876 Carre, Thomas A. Riddell, of Caverscarre, St Boswells  
 1871 Carrick, Charles, Baad, Stirling  
 1872 Carrick, Thos. A., Easter Cambusdrennie, Stirling  
 1854 Carruthers, John, of Miln, Kirkhill, Moffat  
 1870 Carruthers, John, Tundergarth, Lockerbie  
 1876 Carruthers, Joseph, Broomhill, Annan  
 1875 Carruthers, Robert, *Courier Office*, Inverness  
 1870 Carruthers, R. B., Huntingdon Lodge, Dumfries  
 1838 Carstairs, Drysdale, Hailes House, Fairfield, Liverpool  
 1869 Carswell, David, junior, Straiton, Leuchars  
 1868 Cartwright, T. R. B. Leslie Melville, Melville House, Ladybank  
 1861 Carver, John, Kinloch, Meikle  
 1871 CATHCART, Lieut.-Colonel the Hon. Adolphus F., Caldra, Dunse  
 1877 Cathcart, James P., 135 Buchanan Street, Glasgow  
 1857 Cathcart, R., of Pitcairlie, Auchtermuchty  
 1872 Catley, W. E., of Edderton, Tain  
 1866 Cattanach, A., of Auchintorlie, Paisley  
 1878 Caven, John, of Snade, Dunscore  
 1876 Caven, Thomas, Birkshaw, Glencairn, Dunscore  
 1871 Caverhill, John, Greenburn, Ayton  
 1839 CAWDOR, Right Hon. the Earl, Stackpole Court, Pembroke, South Wales  
 1877 Cecil, Right Hon. Lord Arthur, Orchard Mains, Innerleithen  
 1877 Cecil, Right Hon. Lord Lionel, Traquair, New Hall, Innerleithen  
 1874 Chalmers, Archibald, of Kipp, Dalbeattie  
 1871 Chalmers, James, Shieldhill, Stanley, Perth  
 1860 Chalmers, Thomas, of Longcroft House, Linlithgow  
 1864 Chambers, Robert, 10 Claremont Crescent, Edinburgh  
 1870 Chambers, Thomas, of Pelutho, Abbey Town, Cumberland  
 1864 Chambers, William, Soutarton, Forguc, Huntly

Admitted

- 1849 Chancellor, J. G., of Shieldhill, Bigger  
 1857 Chandler, Henry, Salford  
 1869 Chaplin, Geo. C. Child, of Colliston, Arbroath  
 1873 Chapman, James, Ballencrieff Mill, Bathgate  
 1873 Chapman, Mungo, Auctioneer, Bathgate  
 1879 Charles, John, Town and County Bank, Inverurie  
 1876 Charlton, John, Corn Merchant, Dumfries  
 1867 Charlton, Matthew, jun., Browndean-laws, Jedburgh  
 1860 Cheape, Lieut.-Col. Charles, of Kilundine, Lochaline, Morven, Argyllshire  
 1864 Cheape, G. C., of Strathtyrum, Wellfield, Strathmiglo  
 1874 CHETWYND, Captain the Hon. Henry W., R.N., 5 Monte Bello, Portobello  
 1838 Chiene, Geo. Tod, C.A., 27 Northumberland Street, Edinburgh  
 1860 Chirnside, G., Edrington House, Berwick  
 1865 Chisholm, The, Erchless Castle, Inverness  
 1865 Chisholm, Duncan, Treenlaur, Newport, Mayo, Ireland  
 1874 Chisholm, John, Chapel Rossan, Stranraer  
 1854 Chisholm, John, Charleston, Inverness  
 1874 Chisholm, John, Ironmonger, 8 Church Street, Inverness  
 1850 Christie, Andrew, Addinston, Tranent  
 1850 Christie, Charles J., Westbank, Tranent  
 1862 Christie, C. J., Catherine Lodge, Newhaven Road, Edinburgh  
 1864 Christie, George, Southfield House, Stirling  
 1873 Christie, James, Bankend, Stirling  
 1865 Christie, James, Blandfield, Edinburgh  
 1873 Christie, James, Cultenhove Mains, St Ninians  
 1835 Christie, Captain James, Hillend, Clackmannan  
 1876 Christie, James, Sunnyside, Prestonkirk  
 1846 Christie, John, 10 Pitville Parade, Cheltenham  
 1872 Christie, John, of Cowden, 19 Buckingham Terrace, Edinburgh  
 1874 Christie, John, West Mains, Haddington  
 1861 Christie, P., Mains of Scotscraig, Tayport  
 1857 Christie, T. C., of Bedlay, Moodiesburn



## Admitted

- 1848 CHRISTISON, Sir Robert, Bart., M.D.,  
40 Moray Place, Edinburgh  
1871 Chrystal, George, Engineer, Perth  
1878 Chrystal, Robert, 1 Charing Cross,  
Glasgow  
1878 Chrystal, William, Gilchristland,  
Thornhill  
1834 Chrystie, Captain A., late H.E.I.C.S.  
1855 Church, D. M., Ferniebank, Liberton  
1838 Church, J., Sark Tower, Canonbie  
1859 Clapperton, Jas., Garvald Mains, Pres-  
tonkirk  
1855 Clapperton, John, Gifford Bank, Gif-  
ford  
1864 Clapperton, John, Gillsland, Spylaw  
Road, Edinburgh  
1877 Clark, Andrew, Manswrae, Bridge of  
Weir  
1869 Clark, Archd., Garvie, Colintraive  
1853 Clark, Archibald, Inverchapple, Kil-  
mun  
1838 Clark, Francis William, of Ulva, Aros  
1864 Clark, James, Kirklandhill, Dunbar  
1857 Clark, John, Flender, Busby  
1869 CLARK, 'Sir John F., of Tillypronie,  
Bart., Tarland  
1858 Clark, John Gilchrist, of Speddock,  
Dabton, Thornhill  
1872 Clark, John M., of Garthdee House,  
Aberdeen  
1867 Clark, Lachlan, Tangy, Campbeltown  
1869 Clark, Matthew, Glasgow  
1872 Clark, M., of Little Culmain, Crocket-  
ford, Dumfries  
1871 Clark, Robert, Taybank House, Errol  
1873 Clark, William, Northfield, Denny  
1857 Clark, William, Shawhill, Monkton  
1871 Clark, William, Starr, Cupar Fife  
1873 Clark, Rev. Wm. Aitkinson, Belford  
Hall, Belford, Northumberland  
1871 Clarke, J. F., Cowgask, Auchterariler  
1869 Clarke, John, Spindlehowe, Udding-  
ston  
1873 Clarke, William, Hopewell, Tarland  
1854 Clay, John, Kerchesters, Kelso  
1870 Cleghorn, Hugh, M.D., of Stravithy,  
St Andrews  
1875 Clelland, James, Knockenlaw, Kil-  
marnock  
1877 Clench, Fred. (Messrs Robey & Co.),  
Lincoln  
1876 Clerk, Sir George Douglas of Penicuik,  
Bart., Penicuik  
1860 Clerk, Duncan, Writer, Oban  
1875 Clerkson, Alexander, Lyden, Kirk-  
newton  
1871 CLINTON, Right Hon. Lord, Fetter-  
cairn House, Fettercairn  
1850 Clouston, Peter, Glasgow  
1871 Clyne, David, Reaster House, Wick  
1852 COATS, Sir Peter, of Auchendrane.  
Ayr

## Admitted

- 1852 Coats, Thomas, of Ferguslie, Paisley  
1877 Cochran, John, Low Portencallie,  
Stranraer  
1877 Cochran, Robert, Caldou, Stoneykirk,  
Stranraer  
1861 Cochrane, Alexander, of Ashkirk,  
Hawick  
1842 Cochrane, Alex. Bailie, of Lamington,  
M.P., Lamington  
1858 Cochrane, James, Waterside Lodge,  
Newburgh, Aberdeen  
1877 Cochrane, James, Logan, Ardwell  
1861 Cockburn, George, Kilchiaron, Port-  
charlotte, Islay  
1866 Cockburn, Arch. D., 6 Athole Crescent,  
Edinburgh  
1838 COLEBROOKE, Sir Thomas Edward, of  
Crawford, Bart., M.P., Abington.  
1868 Collie, Alexander W., late Lairshill,  
Aberdeen  
1843 Collier, John, Hatton House, Car-  
noustie  
1857 Collyer, William D., of Cormiston,  
Biggar  
1873 Colquhoun, George, Shemore, Luss  
1872 COLQUHOUN, Sir James, of Luss, Bart.,  
Ross-dhu, Luss  
1876 Colquhoun, Major James, Ben Cruach  
Lodge, Arroquhar, Loch Lomond  
1850 Colquhoun, J., Cockerhill, Pollok-  
shaws  
1874 Colquhoun, Rev. J. E. Campbell,  
Chartwell, Westerham, Kent  
1878 Coltart, John (of John & James Coltart,  
Implement Makers), Maxwelltown,  
Dumfries  
1872 Colthart, Robert, Achateny, Ardnar-  
murchan  
1851 COLVILLE of Culross, Right Hon. Lord,  
K.T., 42 Eaton Place, London  
1871 Colvin, James E., Wester Manbeen,  
Elgin  
1874 Colvin, John, Solicitor, Inverness  
1860 Colvin, William, of Craigielands,  
Moffat  
1873 Common, James, Capplefoot, Lock-  
erbie  
1878 Common, John, South Corriolaw,  
Lockerbie  
1871 Comrie, Alex., 30 Battery Place,  
Rothesay  
1874 Conacher, P. M., Gallin Cottage, Glen-  
lyon, Aberfeldy  
1873 Coningham, W. J. C., late High Street,  
Haddington  
1877 Connal, Michael (of Parkhall, Killearn),  
Glasgow  
1878 Connell, J. W. F., of Auchencheyne,  
Thornhill  
1852 Conning, John, Solicitor, Perth  
1877 Connochie, William Dixon, V.S., Sel-  
kirk

**Admitted**

- 1860 Constable, James, of Glencraig, Lochgelly  
 1864 Constable, Rev. John, Principal of the Royal Agricultural College, Cirencester  
 1871 Cook, Charles, Invercauld Arms, Ballater  
 1841 Cook, John, W.S., 11 Great King Street, Edinburgh  
 1876 Cook, Thomas W., Castleton of Asloun, Alford  
 1865 Cooper, Alexander, Solicitor, Elgin  
 1845 Cooper, H. R., of Ballindalloch, Ballfron  
 1845 Cooper, William, of Failford, Smithstone House, Tarbolton  
 1874 Cooper, William S., yr. of Failford, Edinburgh  
 1876 Copland, Alex., Manager, Aberdeen, Commercial Co., Aberdeen  
 1855 Copland, Robert, Mill of Ardlethen, Ellon  
 1864 Copland, Jn., Rusco, Gatehouse  
 1877 Corbett, Thomas, Perseverance Iron Works, Shrewsbury  
 1840 Cordiner, W. F., Mormond House, Cortes, Lonmay  
 1878 Cormack, John F., Solicitor, Lockerbie  
 1860 Corrie, Adam, South Park, Kirkcudbright  
 1878 Corrie, Thomas, Knocklae, New Galloway  
 1874 Costine, John, of Lochvale, Dumfries  
 1864 Cotesworth, Robert, Cowdenknowes, Melrose  
 1873 Coubro, John, Hawkhill, Kincardine-on-Forth  
 1857 Coubrough, A., Biggarshields, Biggar  
 1875 Coubrough, Archd., High Craigton, Milngavie  
 1852 Coubrough, J., Blairtummoich, Lennoxton  
 1876 Coubrough, William, Sornfallow, Wiston, Biggar  
 1859 Coupar, John, Balrownie, Brechin  
 1869 Coupar, Jn. Cardno, of Craigiebuckler, Aberdeen  
 1865 Cousin, George, 12 Royal Exchange, Edinburgh  
 1864 Cousland, James, Banker, Denny  
 1858 Coutts, William, Banff  
 1864 Coventry, Wm., Pleasance, Aberdour, Fifeshire  
 1871 Cowan, Dr Alex., Greenhill Lodge, Edinburgh  
 1836 Cowan, C., of Logan House, Wester Lea, Murrayfield  
 1860 Cowan, Charles W., yr. of Logan House, Penicuik  
 1875 Cowan, Daniel, 228 Dobbie's Loan, Glasgow  
 1869 Cowan, George, Mains of Park, Glenluce

**Admitted**

- 1872 Cowan, George, Valleyfield, Penicuik  
 1873 Cowan, James, 10 North Queen Street, Glasgow  
 1874 Cowan, James, M.P., 35 Royal Terrace, Edinburgh  
 1858 Cowan, John, of Beeslack, Milton Bridge  
 1875 Cowan, John, Churchill House, Paisley  
 1879 Cowan, John, W.S., 12 Hill Street, Edinburgh  
 1879 Cowan, John, Metal Merchant, 21 Albert Street, Edinburgh  
 1854 Cowan, Richard, St Kilda, Sidmouth, Devon  
 1861 Cowan, Robert, W.S., 9 Carlton Terrace, Edinburgh  
 1862 Cowan, Robert, Bank Cottage, Maryfield, Portobello  
 1872 Cowan, William, Banker, Alva  
 1870 Cowe, George, Balhousie, Carnoustie  
 1872 Cowe, Peter, Lochton, Coldstream  
 1870 Cowe, Robert, Old Castles, Clirnside  
 1872 Cowe, William, Butterdean, Grant's House  
 1868 Cowie, Alexander, Darley, Auchterless, Turriff  
 1853 Cowie, Alexr., Crombly Bank, Ellon  
 1852 Cowie, James, Sundridge Hall, Bromley, Kent  
 1876 Cowie, James, Woodbine Cottage, Stonehaven  
 1877 Crabbie, John, of Duncow, 22 Royal Terrace, Edinburgh  
 1877 Crabbie, John M., yr. of Duncow, 33 Chester Street, Edinburgh  
 1870 Craig, Daniel, Barr, Sanquhar  
 1855 Craig, David, 4 Pitt Street, Portobello  
 1873 Craig, D. B., Mount Pleasant, Thurso  
 1875 Craig, H. V. Gibson, W.S.  
 1850 Craig, James, 33 Manor Place, Edinburgh  
 1857 Craig, James, of Craigdarroch, Invergeldie, Crief  
 1863 CRAIG, Sir James H. Gibson, of Riccarton, Currie  
 1857 Craig, John, Guelt, Cumnock  
 1867 Craig, John, Jellyhill, Bishopbriggs  
 1857 Craig, John, Littlehill, Bishopbriggs  
 1878 Craig, John, Glencrutton, Oban  
 1860 Craig, Josh., of Threecrofts, Lochrutton  
 1870 Craig, Robert, Carruchan, Troqueer, Dumfries  
 1867 Craig, Robert, Auchentiber, Greenock  
 1868 Craig, Robert (Frances Lowe and Co.), Chapelton, Jamaica  
 1859 Craig, William, Laurel Bank, Dumfries

Admitted	Admitted
1870 Craig, William, Buchley, Bishopbriggs	1878 Crichton, James (Hamilton & Crichton), George Street, Edinburgh
1877 Craig, Dr William, 7 Lothian Road, Edinburgh	1847 Crichton, James Arthur, Advocate, Sheriff of Fife, 13 Nelson Street, Edinburgh
1855 Craig, William C., Anneston, Biggar	1859 Crichton, William, Live Stock Agent, Haddington
1862 Craig, W., Urquhart, Dunfermline	1870 Critchley, J. A., Stapleton Tower, Annan
1875 Craig, William, Implement Maker, Old Meldrum	1872 Croall, John, Coach Works, Kelso
1878 Craighead, James, Sillyflat, Bervie	1875 Croall, Robert, Job and Postmaster, Craigerook Castle, Edinburgh
1858 Craigie, Wm. Roper, Tom-na-Droighne, Ballinluig	1835 Crombie, A., of Thornton, Laurencekirk
1878 Craik, George, Glentoo, Castle Douglas	1858 Crombie, Alex. yr., of Thornton, W.S., Albert Buildings, Edinburgh
1877 Craik, John, The Bush, Roslin	1870 Cromarty, William, Widewall, St Margaret's Hope
1863 Craike, Charles, late Esbie, Lochmaben	1879 Crosbie, William G., S.S.C., Dumfries
1878 Cran, George, Old Morlich, Inverkindie	1878 Cross, Alexander, jun., Eastbank, Langbank
1876 Cran, James, jun., Knockandoch, Leochel-Cushnie, Alford	1845 Cross, David (of Knockdon, Maybole), Seed Merchant, Hope Street, Glasgow
1871 Cran, John, Kirkton, Inverness	1852 Cross, Robert, Uddingston
1872 Cranston, James, Holystone, Thornhill	1865 Crossman, M. G., Bridgend, Berwick
1849 Cranstoun, George Cranstoun Trotter, of Dewar, Harvieston, Gorebridge	1858 Cruickshank, Amos, Sittyton, Aberdeen
1859 Cranstoun, William S., Dyke, Moffat	1868 Cruickshank, Andw., Conland, Huntly
1878 Craufurd, Lieut.-Col. John Reginald Houston, of Craufurdland, Braclhead, Cramond Bridge	1878 Cruickshank, David, Meft, Elgin
1850 Crawford, Adam, Royal Terrace, Edinburgh	1868 Cruickshank, Edward C., Lethenty, Inverurie
1853 Crawford, Alexander, Writer, Dunse	1874 Cruickshank, George, Ardmore, Tain
1871 Crawford, Andrew, Pitlowie, Glen-carse	1852 Cruickshank, George, Comisty, Huntly
1860 Crawford, D., Dykehill, Milton of Campsie	1876 Cruickshank, James, Ladysford, Fraserburgh
1855 Crawford, James Coutts, of Overton, Strathaven	1871 Cruickshank, John, Barmuckity, Elgin
1854 Crawford, John, The House of Tongue, Laing	1852 Cruickshank, John, Knock, New Spynie, Elgin
1877 Crawford, John, High Street, Alloa	1875 Cruickshank, John, Overton, Elchies, Craigellachie
1865 Crawford, John, Milnstonford, West Kilbride	1876 Cruickshank, John W., Lethenty, Inverurie
1867 Crawford, Muir, 6 Bank Street, Leith	1876 Cruickshank, William, Cairnglass, Lonmay, Aberdeen
1857 Crawford, P., Dumgoyack, Strathblane	1865 Cruickshank, Wm., Milton of Bracklich, Fort-George Station
1875 Crawford, Robert, of Lochsannish, Campbelltown	1865 Crum, Alexander, Thornliebank House, Thornliebank, Glasgow
1866 Crawford, R., Balbougie, Inverkeithing	1876 Cullen, Archd., Woodend, Airdrie
1860 Crawford, William, Balgarvie, Perth	1868 Cumming, George, Writer, Banff
1875 Crawford, William, Hillhead, Carnwath	1865 Cumming, Henry Gordon, Pittyvaich, Dufftown
1838 Craufurd, W. S. Stirling, of Milton, Glasgow	1874 Cumming, James, Allanfeearn, Inverness
1866 Crease, Wm., 6 George Square, Edinburgh	1876 Cumming, William, V.S., Alnwick
1875 Crerar, Donald, Morenish, Killin	1874 CUMMING, Sir William G. Gordon, of Altyre, Bart., Forres
1861 Crerar, John, Drumatherty, Dunkeld	1850 Cuninghame, D., Chapelton, A. I. rossan
1850 Creyk, Dr A., Dalvey, Advie, Strath-	1867 Cuninghame, Captain John, of Balgownie, Culross, Alloa
1838 Crichton, Hew, S.S.C., 13 Nelson Street, Edinburgh	1854 Cunningham, A. G., Rosebank, Currie
1849 Crichton, Hew Hamilton, W.S., 13 Nelson Street, Edinburgh	

Admitted

- 1863 Cunningham, C. R., Grahamslaw, Kelso  
 1870 Cunningham, C., V.S., Slateford  
 1872 Cunningham, C. J., of Muirhouselaw, The Tofts, Morebattle, Kelso  
 1873 Cunningham, David, Freugh, Stranraer  
 1864 Cunningham, J., Tarbreoch, Dalbeattie  
 1866 Cunningham, J. Barré, of Hensol, Castle-Douglas  
 1864 Cunningham, J. C., 102 West Bow, Edinburgh  
 1879 Cunningham, James William Brodie, Grahamslaw, Kelso  
 1852 Cunningham, John Sinclair, 102 West Bow, Edinburgh  
 1867 Cunningham, John, Trees, Maybole  
 1857 Cunningham, J., Whitecraig, Dalbeattie  
 1864 Cunningham, J. M., Assistant Manager Clydesdale Banking Company, Glasgow  
 1851 Cunningham, T., Dalachy, Aberdeen  
 1836 Cunningham, W. A., of Logan, Cumnock  
 1859 Cunningham, W. C. S., of Caprington, Kilmarnock  
 1867 CUNNINGHAM, Sir Robert K. A. Dick, of Prestonfield, Bart., Edinburgh  
 1871 Curr, Henry, Pitkellony House, Muthill  
 1853 Currie, James, Halkerston, Gorebridge  
 1872 Currie, James J., Stonefield Hill, Gorebridge  
 1879 Currie, John, Bishopton, Kirkcudbright  
 1863 Currie, Wm., of Linthill, St Boswells  
 1854 CURRIEHILL, Hon. Lord, 6 Randolph Crescent, Edinburgh  
 1877 Curror, Adam Henry, Wormet, Newport, Fife  
 1867 Curror, David, of Wester Craigduckie, 25 Northumberland St., Edinburgh  
 1848 Curror, John, of Nivingston, Comiston, Lothian Burn  
 1869 Curror, John F., Myreside, Edinburgh  
 1873 Curror, Patrick Robert, The Lee, Edinburgh  
 1872 Curror, Peter, Coxithill, Stirling  
 1836 Cuthbertson, William, Merchant, Glasgow.  
 1874 Dahl, Ferdinand August, Director of the Royal Higher Agricultural School at Aas, Christiania—*Honorary Associate*  
 1876 Dakers, James, 24 Union Row, Aberdeen  
 1875 Dalgleish, George, Rosebery Mains, Temple  
 1857 Dalgleish, John J., of Ardnamurchan, 8 Athole Crescent, Edinburgh

Admitted

- 1858 Dalgleish, L. (of Pitfirrane, Dunfermline), 22 Coates Crescent, Edinburgh  
 1857 Dalglis, Robert, of Kilmardinny, Glasgow  
 1876 DALHOUSIE, Right Hon. the Earl of, Dalhousie Castle, Bonnyrigg  
 1853+ DALKEITH, Right Hon. the Earl of, K.T., M.P., Eildon Hall, Newtown, St Boswells  
 1874 Dallas, A. G., 10 Tervor Terrace, London, S.W.  
 1875 Dangerfield, Edw., Balboughty, Perth  
 1862 Dalrymple, Charles, of Hailes, M.P., 39E Onslow Square, London, S.W.  
 1863 Dalrymple, C. Elphinstone, of Kineilair Lodge, Blackburn, Aberdeen  
 1865 DALRYMPLE, Hon. G. Grey, Elliston House, St Boswells  
 1841 DALRYMPLE, Sir Hew, of North Berwick, Bart., Luchie, North Berwick  
 1857 Dalrymple, James, of Woodhead, Kirkintilloch  
 1866 DALYELL, Sir R. A. O., of Binns, Bart.  
 1878 Dalziel, Adam, Arkland, Penpont  
 1860 Dalziel, Alex., Glenwharrie, Sanquhar  
 1860 Dalziel, George, Merkland, Thornhill  
 1870 Dalziel, Geo., Auchengruith, Sanquhar  
 1873 Dalziel, George, W.S., 53 Melville Street, Edinburgh  
 1869 Dalziel, James, Tinwaldshaws, Dumfries  
 1878 Dalziel, Robert, Druidhall, Penpont  
 1857 Darling, Adam, Governor's House, Berwick  
 1863 Darling, J. Stormonth, of Lednathie, W.S., 64 Northumberland Street, Edinburgh  
 1839 Darling, Wm. Priestlaw, Cranshaws  
 1865 Darroch, D., of Gourrock, Torridon, Achnasheen  
 1855 Davidson, Alex., Mains of Cairnbrogie, Old Meldrum  
 1872 Davidson, And., Brewer, Coldstream  
 1878 Davidson, David, 71 English Street, Dumfries  
 1824 Davidson, Dun., of Tulloch, Dingwall  
 1864 Davidson, Duncan H. C. R., yr. of Tulloch, Dingwall  
 1860 Davidson, George, Walton, Linlithgow  
 1870 Davidson, Gilbert, Banker, Hawick  
 1848 Davidson, H., of Muirhouse, Davidson's Mains, Edinburgh  
 1841 Davidson, Henry M., Sheriff-Clerk, Haddington  
 1870 Davidson, Hugh, of Braedale, Lanark  
 1864 Davidson, J., North Leys, Banchoory  
 1877 Davidson, Jas. J., Dean Park, Balerno  
 1874 Davidson, Lachlan, Bank of Scotland, Kingussie  
 1834 Davidson, P., of Inchmarlo, Banchoory  
 1865 Davidson, Robert, Mayfield, Inverness  
 1872 Davidson, Wm., Colmslie, Galashiels

**Admitted**

- 1850 Davidson, William J., of Ruchill, Caldwell House, Neilston  
 1848 DAVIE, Sir H. R. F., of Creedy, Bart., Crediton, Devon  
 1859 Dawson, John, Swinton Bridge End, Coldstream  
 1876 Dawson, William, The Farm, Gordon Castle, Fochabers  
 1878 Dayton, Robert, The Hotel, Lochearnhead  
 1876 Dean, George, Brangan, Bolyndie, Portsoy  
 1857 Deans, J. Y., of Kirkstyle, Kilmarnock  
 1850 Deans, Peter D., Mount Charles, Portobello  
 1878 Deans, William, The Glen, Innerleithen  
 1838 DEAS, Hon. Lord, 32 Heriot Row, Edinburgh  
 1823 Dempster, G., Ormiston Hall, Tranent  
 1854 Denholm, Alex., Baillaws, Lannington  
 1877 DENMAN, Right Hon. Lord, Alderston, Haddington  
 1850 Dennistoun, Alex. H., of Golfhill, Glasgow  
 1877 Dennistoun, James Wallis, of Dennistoun, The Hangingshaw, Selkirk  
 1875 Dent, Irvine, Ravensnook, Penicuik  
 1832 Dewar, Lieut.-Col. A. C., of Vogrie, Ford  
 1864 Dewar, A., Arnprior, Kippen, Stirling  
 1872 Dewar, David, Shaw of Touch, Stirling  
 1860 Dewar, G. I., United Service Club, Edinburgh  
 1873 Dewar, James, Cairnston, Dunblane  
 1872 Dewar, James, 9 Alston Street, Glasgow  
 1877 Dewar, James Cumming, yr. of Vogrie, Ford  
 1873 Dewar, John, Doune Castle Farm, Doune  
 1861 Dewar, John, Wine Merchant, Perth  
 1864 Dewar, Peter, King's Park, Stirling  
 1864 Dewhurst, G. C., of Aberuchil, Comrie  
 1856 Dick, Dr John, 19 Dalrymple Crescent, Edinburgh  
 1875 Dick, John, Ironfounder, Willow Park, Airdrie  
 1868 Dick, Wm., of Tullymet, Ballinluig  
 1859 Dickenson, Wm., Longcroft, Lauder  
 1869 Dickie, Joseph, Union Bank, Duukeld  
 1867 Dickie, Robt., Killeonan, Campbelltown  
 1870 Dickie, William, Balgerran, Castle-Douglas  
 1869 Dickinson, George T., of Wheelbirks, Newcastle-on-Tyne  
 1870 Dickson, Alex., of Hartree and Kilbucho, M.D., Professor of Botany, University of Glasgow  
 1854 Dickson, Archibald, Hassendeanburn, Hawick  
 1879 Dickson, George, Currielea, Ormiston

**Admitted**

- 1850 Dickson, James J., C.A., 13 Clarendon Crescent, Edinburgh  
 1858 Dickson, James A., Woodville, Arbroath  
 1862 Dickson, J. H., of Corstorphine, Saughton Mains, Edinburgh  
 1846 Dickson, John, W.S., Greenbank, Perth  
 1878 Dickson, John, King's Arms Hotel, Lockerbie  
 1858 Dickson, John F., Panbride House, Carnoustie  
 1876 Dickson, Patrick, Laurecekirk  
 1870 Dickson, R. A., Merchant, Dumfries  
 1860 Dickson, T., Drumcuil, Thornhill  
 1879 Dickson, Thomas Goldie, 34 York Place, Edinburgh  
 1871 Dickson, Dr Walter G., 3 Royal Circus, Edinburgh  
 1874 Dickson, W. L., Drummelzier Haugh, Biggar  
 1878 Dickson, William Traquair, W.S., 11 Hill Street, Edinburgh  
 1851 Dingwall, William, Ramornie, Ladybank  
 1863 Dinning, John, The Terrace, Belford, Northumberland  
 1879 Dinwoodie, Wm. A., Manufacturer, Greenbrae, Dumfries  
 1849 Dixon, Thomas G., Nant Hall, Rhyl  
 1876 Dixon, W. S., Belleisle, Ayr  
 1877 Dixon, Wm., Calder Iron Works, Coatbridge  
 1866 Dobbie, John, Campend, Dalkeith  
 1862 Dobie, David, Tinwald House, Dumfries  
 1878 Dobie, David, Banker, Lockerbie  
 1878 Dobie, Douglas, Thornhill  
 1863 Dodd, Nicholas, Nisbet, Kelso  
 1863 Dodd, James, Mossburnford, Jedburgh  
 1837 Dodd, William, Merchant, Glasgow  
 1857 Doddrell, George J., 51 Belmont Terrace, Hillhead, Glasgow  
 1865 Dodds, James, Moncrieff Bank, Perth  
 1844 Dodds, J., Cranston Riddell, Dalkeith  
 1877 Dodds, Samuel, Somnerfield, Haddington  
 1863 Dodds, William, Elwarthlaw, Greenlaw  
 1871 Doe, John, Agricultural Implement Maker, Errol  
 1858 Don, Alex., Keirsbeath, Dunfermline  
 1877 Donald, Andrew, Spittal, Penicuik  
 1858 Donald, Jas., Deebank Cottage, Crathes, Aberdeen  
 1878 Donald, James Forbes, Annan  
 1877 Donald, John, 49 Forrest Road, Edinburgh  
 1876 Donaldson, Alex., Auchip, Fordyce, Portsoy  
 1871 Donne, Henry, Leek Wootton, Warwick

Admitted

- 1865 Dougall, Adam, Stewarton, Kirkcinner  
1865 Dougall, Andrew, Railway Manager, Inverness  
1857 Dougall, Admiral W. H. Maitland, R.N., of Scotsraig, Tayport  
1875 Douglas, Mrs. Green, Kilmalcolm  
1876 Douglas, Arch., 228 Dobbie's Loan, Glasgow  
1868 Douglas, Archibald C., of Mains, Milngavie  
1868 Douglas, Arthur Henry Johnstone, of Lockerbie  
1858 Douglas, Bentlem, Pepper Mill, Liberton  
1866 Douglas, E. O., of Killiechassie, Aberfeldy  
1839 Douglas, F. B., Advocate, 21 Moray Place, Edinburgh  
1851 DOUGLAS, Sir Geo. H. S., of Springwood Park, Bart., M.P., Kelso  
1873 Douglas, J. H. S., yr. of Springwood Park, Kelso  
1871 Douglas, George, Upper Hindhope, Jedburgh  
1867 Douglas, George Sholto, 7 Pentland Terrace, Edinburgh  
1869 Douglas, John, Calrossie, Nigg, Ross-shire  
1873 Douglas, John, Marionburgh, Ballindalloch  
1861 Douglas, Thomas, Clyth, Wick  
1872 Douglas, Thos., Swinside Townhead, Jedburgh  
1874 Douglas, William, Arbol, Fearn  
1878 Douglas, William D. Robinson, of Orchardton, Castle-Douglas  
1854 Douglass, Alex. Forbes, Haddo House Mains, Aberdeen  
1864 Douie, John R. L., Factor, Polmaise, Stirling  
1853 Dove, John, late Eastfield, Greenlaw, Dunse  
1879 Dow, David, Balmanno, Bridge of Earn  
1879 Dow, David, jun., Balmanno, Bridge of Earn  
1879 Dow, James, West Culmalundie, Tibbermuir, Perth  
1871 Dowall, Charles, Kelly Bleachfield, Arbroath  
1858 Dowell, Alex., 13 Palmerston Place, Edinburgh  
1873 Downie, George, Balcomie, Crail  
1869 Downie, Hay, Corstorphine  
1838 Downie, John, Merchant, Glasgow  
1867 Downie, Wm., Kinbroom, Rothienorman  
1857 Drennan, James, of Auchenee, Ayr  
1872 Drever, James, Askernish, South Uist, Lochmaddy  
1870 Drew, James, of Craigenallie, Doonhill, Newton-Stewart  
1850 Drew, Lawrence, Merryton, Hamilton  
1857 Drife, James, New Zealand

Admitted

- 1861 Dron, William, Crieffvechter, Crieff  
1861 DRUMMOND, Hon. Francis, 58 St George's Square, London, S.W.  
1873 Drummond, James, jun., Blacklaw, Dunfermline  
1859 Drummond, Henry, Seedsman, Stirling  
1864 Drummond, John of Balquhandy, late Guitton Rectory, Wingham, Kent  
1871 Drummond, John, of Blackruthven, Perth  
1852 Drummond, J. M., of Megginch, Errol  
1875 Drummond, Robert, Pocknave, Craigie, Kilmarnock  
1828 Drummond, Thos., of Craigie, Dundee  
1870 Drummond, W. P., 52 George Street, Edinburgh  
1858 Drybrough, Thos., 31 Royal Terrace, Edinburgh  
1869 Dryburgh, J., Kininmonth, Cupar Fife  
1863 Dryden, W., Land-Steward, Springwood Park, Kelso  
1871 Drysdale, Alex., S. St Andrew Street, Edinburgh  
1873 Drysdale, David, Lorns Hill, Alloa  
1864 Drysdale, Henry, Begbie, Haddington  
1873 Drysdale, Robert, Old Mills, Craigforth, Stirling  
1861 Drysdale, Wm., of Kilrie, North Pittcaddie, Kinghorn  
1870 Dudgeon, Alex., East Dalmeny, Edinburgh  
1869 Dudgeon, George, Almondhill, Kirkliston  
1850 Dudgeon, James, Upper Keith, Edinburgh  
1840 Dudgeon, John, 17 Kensington Gate, London  
1862 Dudgeon, J. S., Longnewton, St Boswells  
1856 Dudgeon, John B., Crakaig, Golspie  
1851 Dudgeon, Patrick, of Cargen, Dumfries  
1877 Dudgeon, Robert F., yr. of Cargen, Dumfries  
1843 DUDLEY, Right Hon. the Earl of, Dudley House, Park Lane, London  
1866 DUFF, Hon. George Skene, Montecoffier House, Banff  
1874 Duff, George Smyttan, Sanquhar House, Forres  
1868 Duff, Col. James, Knockleith, Turriff  
1875 Duff, James, Factor, Blackwood Lesmahagow  
1865 Duff, James, Freeland, Bridge of Earn  
1858 Duff, Lachlan Duff Gordon, of Drummuir, Keith  
1866 Duff, Robert W., of Fetteresso, M.P., Stonehaven  
1874 Duff, Thomas, of Garth, Aberfeldy  
1877 Duff, Wm., Tayfarm, Meikleour

Admitted	Admitted
1858 Duguid, P., of Cammachmore, Aberdeen	1872 Dunlop, George, W.S., 20 Young Street, Edinburgh
1871 Dun, John, jun., Galashiels	1875 Dunlop, Quintin, Morriston, Maybole
1873 Dun, Peter, Kepphill Villa, Kippen	1871 Dunlop, Robert, Aulton, Kilmaurs
1839 DUNBAR, Sir Archd., of Northfield, Bart., Duffus House, Elgin	1853 Dunlop, William H., of Annanhill, Kilmarnock
1876 Dunbar, Garden Duff, of Hempriggs, Ackerhill Tower, Wick	1862† DUNMORE, Right Hon. the Earl of, Dunmore Park, Stirling
1845 DUNBAR, Sir William, of Mochrum, Bart., 35 Princes Gardens, London, S.W.	1854 Dunn, Adam, Tranent Mains, Tranent
1876 Dunbar, William, Union Bank, Turriff	1863 Dunn, David, 47 Belmont Road, Liverpool
1851 Duncan, Alex. (of Providence, Rhode Island), Knossington Grange, Oakham, Rutland	1876 Dunn, John, Ramsay Lodge, Kelso
1875 Duncan, Alex., Birgidale Knock, Rothesay	1877 Dunn, Malcolm, The Gardens, Dalkeith
1857 Duncan, Alex., Craigfoodie, Cupar Fife	1877 Dunn, Robert, Ballykelly, Londonderry
1878 Duncan, Alex., Duart, Achnacraig, Mull	1878 Dunn, William, Kenmore Mains, Aberfeldy
1875 Duncan, Alex. R., yr. of Parkhill, Gavell House, Kilsyth	1858 Durie, David, Nether Mill, Fettercairn
1876 Duncan, Charles, Advocate Aberdeen	1855 Durie, Robert Hogg, Barney Mains, Haddington
1875 Duncan, Charles, Little Kilmory, Bute	1874 Durno, James, Jackstown, Rothienorman
1872 Duncan, Charles, of Meadowcap, Rothesay	1868 Durno, John, Lambhill, Insch
1858 Duncan, D. H., Friock Mains, Arbroath	1874 Durno, John, Sunnyside, Rothienorman
1868 Duncan, James, Killichonan, Rannoch	1868 Duthie, William, Banker, Tarves
1869 Duncan, James, Panlathie Mill, Carnoustie	1878 Dykes, James, Cuicken, Penicuik
1871 Duncan, James, of Benmore, Kilninn, Greenock	1869 Dykes, John, jun., 79 St Vincent Street, Glasgow
1875 Duncan, James, Bannatyne Mains, Rothesay	1875 Dykes, Robert, Laigh Hillhouse, Troon
1871 Duncan, John, yr. of Kinkell, Brownhills, St Andrews	1876 Dykes, Thomas, The Castle, Maybole
1858 Duncan, John, Ardo, Methlic	1879 Dykes, Thomas, Secretary, Clydesdale Horse Society, 194 St Vincent Street, Glasgow
1877 Duncan, John, Fortrie, King Edward, Banff	1832 Dyson, Thos. C., of Willowfield, Halifax, Yorkshire
1877 Duncan, Patrick, Balchers, King Edward, Banff	1871 Easson, David, Camperdown, Dundee
1855 Duncan, Robert, of Kirkmay, Crail	1860 Easson, Robt., Scones, Lethendy, Perth
1868 Duncan, R., Auchenbaidie Mains, Banff	1865 Eden, Right Rev. Bishop, Hedgefield House, Inverness
1848 Duncan, William, S.S.C., 13 Abercromby Place, Edinburgh	1871 Eden, Henley, Hedgefield House, Inverness
1876 Duncan, William, 18 York Place, Edinburgh	1874 Edgar, John, Kirkettle, Roslin
1868 Duncan, W. J., National Bank, Edinburgh	1871 Edgeley, Robert, Gilmerton, Edinburgh
1876 Dundas, Chas. Henry, Dunira, Crieff	1857 Edgeley, Thomas, Gilmerton, Edinburgh
1878 Dundas, Ralph, W.S., 16 St Andrew Square, Edinburgh	1864 Edington, Peter, Thornhill, Muthill
1847 Dundas, Robert, of Arniston, Gorebridge	1863 Edmiston, Hugh Fleming, Bossfield, East Kilbride
1860† DUNGLASS, Right Hon. Lord, Newton Don, Kelso	1869 Edmond, David, of Ballochruin, Balfron
1857 Dunlop, Alexander, Glasgow	1877 Edmond, Alex., yr. of Kingswells, Aberdeen
1876 Dunlop, Colin Robert, of Quarter, Hamilton	1876 Edmond, Francis, of Kingswells, 5 Albany Place, Aberdeen
1869 Dunlop, Gabriel, Castle Farm, Stewarton	1873 Edmond, Wm., Cowie, Bannockburn

Admitted

- 1873 Edmond, William, Hillhead of Catter, Drymen  
 1858 Edmonds, Leonard, London  
 1878 Edmondson, Thomas, Sackville Street, Portland Street, Manchester  
 1869 Edmondston, D. C., Ordale, Baltasound, Unst, Lerwick  
 1875 Edmondston, Mrs. of Bunes, Lerwick  
 1877 Edmonston, Alex., 88 Princes Street, Edinburgh  
 1873 EDMONSTONE, Admiral Sir William, of Duntreath, Bart., M.P., Strathblane  
 1876 Edward, George, 14 Haddow Street, Aberdeen  
 1859 Edwards, Matthew, late Hilton, Alloa  
 1863 EGLINTON and WINTON, Right Hon. the Earl of, Eglinton Castle, Irvine  
 1847 ELCHO, Right Hon. Lord, M.P., Gosford, Haddington  
 1854 Elder, James, Whitehill Mains, Musselburgh  
 1877 Elder, James, Roddinglaw, Currie  
 1854 Elder, Thomas, Wedderburn Mains, Edrom  
 1872 Elder, William, Implement Maker, Berwick-on-Tweed  
 1873 Eley, William Henry, Etchingham Rectory, Hawkhurst — *Free Life Member*  
 1875 ELGIN and KINCARDINE, Right Hon. the Earl of, Broomhall, Dunfermline  
 1874 ELIBANK, Right Hon. Lord, Darnhall, Eddleston  
 1875 ELLESMERE, Right Hon. the Earl of, Worsley Hall, Manchester  
 1869 Elliot, A. T., Newhall, Galashiels  
 1853 Elliot, James, Galalaw, Kelso  
 1875 Elliot, James T. S., yr. of Wollce, Hawick  
 1854 Elliott, John, Primrosehill, Dunse  
 1863 Elliot, John, of Binks, Burnmouth, Newcastleton  
 1863 Elliot, John, The Flat, Newcastleton  
 1874 Elliot, Matthew, Flesher, Inverness  
 1848 Elliot, Robert, East Nisbet, Kelso  
 1874 Elliot, Robert Henry, of Clifton Park, Kelso  
 1852 Elliot, Thomas, Hindhope, Jedburgh  
 1854 Elliot, Thomas, Blackhaugh, Galashiels  
 1873 Elliot, Thomas John, Bridge House, Southwick, Fareham, Hants—*Free Life Member*  
 1861 ELLIOT, Sir Walter, of Wolfelee, K.C.S.I., Hawick  
 1860 Elliot, Walter, Hollybush, Galashiels  
 1866 Elliot, Walter, Hermitage, Newcastleton  
 1872 Elliot, Wm. B., of Benrig, St Boswells

Admitted

- 1872 Elliot, William, Perth Brewery, Perth  
 1871 Ellison, Ralph Carr, of Dunstan Hill, Gateshead  
 1860 ELPHINSTONE, Right Hon. Lord, Carberry Tower, Musselburgh  
 1867 ELPHINSTONE, Hon. Edward Charles Buller, Carnock House, Larbert  
 1840 ELPHINSTONE, Sir James D. H., of Horn and Logie Elphinstone, Bart., M.P., Pitcaple  
 1854 ERROL, Right Hon. the Earl of, Slains Castle, Ellon  
 1878 Erskine, Charles, The Priory, Melrose  
 1874 Erskine, Henry, Dalladies, Breechin—*Free Life Member*  
 1862 Erskine, H. D., of Cardross, Stirling  
 1862 Erskine, J. E., of Linlathen, Broughty Ferry  
 1859 Erskine, Vice-Admiral John E., The Albany, London  
 1860 ERSKINE, Sir Thomas, of Cambo, Bart., St Andrews  
 1873 Eskdale, John, Muirdean, Kelso  
 1875 Ewart, H., Tynninghame, Prestonkirk  
 1858 Ewen, Robert, West Town, Tarland  
 1857 Ewing, Alex. Crum, yr. of Strathleven, Glasgow  
 1851 Ewing, Archibald Orr, of Ballikrain, M.P., Killearn  
 1857 Ewing, Humphrey Ewing Crum, of Strathleven, Ardencaple Castle, Helensburgh  
 1868 Fair, Frederick, late St Andrews  
 1863 Fair, John S. Elliot, Wells, Jedburgh  
 1864 Fairholme, George K. Erskine, of Old Melrose  
 1831 Fairrie, John, Merchant, London  
 1851 Falconer, Peter, 70 High Street, Old Aberdeen  
 1858 Falconar, Donald, Milton of Conon, Arbroath  
 1873 Falconer, William, Candy, Drumlithie  
 1849 FALSHAW, Sir James, Bart., 14 Belgrave Crescent, Edinburgh  
 1860 Farish, Samuel, Kirklands, Lockerbie  
 1877 Farish, Samuel F., jun., Kirklands, Lockerbie  
 1877 Farish, Wm. R., Tinwald Parks, Dumfries  
 1852 Farquhar, Arthur, of Elsick, W.S., 6 Bon-Accord Square, Aberdeen  
 1876 Farquhar, Captain, of Glenesk, Turriff  
 1877 Farquharson, Fras. Charles, Banker, Auchinblae  
 1865 Farquharson, Colonel, James Ross, of Invercauld, Braemar  
 1865 Farquharson, J., 4 Bridge Street, Aberdeen  
 1852 Farquharson, James, of Glenfarquhar, Auchinblae



*List of Members of the***Admitted**

- 1871 Farquharson, James, East Town, Tarland  
 1848 Farquharson, Major-General Francis  
 1857 Farquharson, Robert O., of Haughton, Alford  
 1858 Farrell, Alfred Herbert William, Davo House, Fordoun  
 1878 Farrell, John Arthur (Moynalty, Meath, Ireland), Thorn Bank, Leamington  
 1857 Farrell, M., of Woodburnden, Fordoun  
 1874 Fell, John Duncan, Flesher, Blairgowrie  
 1868 Fender, Robert, Northfield, Coldingham  
 1877 Fennessy, Thomas, Grange Villa, Waterford, Ireland  
 1872 Fenwick, James, Leadketty, Dunning  
 1871 Fenwick, James, Factor, Redgorton, Perth  
 1874 Fergus, William (Craigour, Liberton), 1 Queen's Place, Leith Walk, Edinburgh  
 1876 Ferguson, Archd. A., Gosfield, Essex—*Free Life Member*  
 1871 Ferguson, Lieut.-Col. George A., of Pitfour, Mintlaw  
 1875 Ferguson, John, Banker, Carnwath  
 1824 Ferguson, John, of Knockindale  
 1863 Ferguson, John, Burghler, Loanhead  
 1855 Ferguson, John, East Grange, Forres  
 1860 Ferguson, John, Brae of Coynach, Mintlaw  
 1846 Ferguson, J., of Kilquhanity, Dalbeattie  
 1870 Ferguson, John, Seed Merchant, Sanquhar  
 1879 Ferguson, John, Kippoch Farm, Dumbarton  
 1875 Ferguson, Peter, Glebe Street, Renfrew  
 1836 Ferguson, Samuel R., of Middlehaugh, 4 Abbotsford Crescent, St Andrews  
 1858 Ferguson, Thomas, Kinnochtry, Coupar-Angus  
 1868 Ferguson, Thomas, Alton of Coynach, Mintlaw  
 1870 Ferguson, Wm., of Kinmundy, Mintlaw  
 1879 Ferguson, W. S., Friarton, Perth  
 1879 Fergusson, Donald, Dalcapon, Ballinluig, Perthshire  
 1854 FERGUSSON, Right Hon. Sir James, of Kilkerran, Bart., Maybole  
 1878 Fergusson, Ninian, Goosehill, Sanquhar  
 1878 Fergusson, William, Donkins, Ecclefechan  
 1870 Ferme, Charles, Blackhall, Tulliallan, Kincardine-on-Forth  
 1869 Ferme, George, Darmouth Grove, Blackheath, London  
 1875 Fernie, James A., Hilton, Alloa  
 1853 Fernie, J. C., Union Club, St Andrews

**Admitted**

- 1878 Ferrier, Alexander (Ferrier Brothers), 55 Hope Street, Glasgow  
 1864 Field, Rev. Edward Burch, of Moreland, 43 Moray Place, Edinburgh  
 1869 Field, Sydney, Aberdeen  
 1840†FIFE, Right Hon. the Earl of, K.T., Duff House, Banff  
 1877 Findlay, James, Glasgow  
 1857 Findlay, Colonel John, Woodbank, Dumbarton  
 1855 Findlay, Robert, of Springhill, Bailieston, Glasgow  
 1847 Finlay, Thomas Dunlop, Easterhill, Glasgow  
 1857 Finlay, W., Brackenbrae, Bishopbriggs  
 1844 Finlay, A. S., of Castle Toward, Greenock  
 1859 Finlay, John, Lochend, Lochgelly  
 1869 Finlay, John H., W.S., 13 Castle Street, Edinburgh  
 1870 Finlay, Kirkman, of Dunlossit, Portaskaig, Islay  
 1874 Finnie, William, of Newfield, Kilmarnock  
 1874 Fisher, Arthur William, Hedgefield, Inverness  
 1873 Fisher, Donald, Jellyholm, Alloa  
 1861 Fisher, Donald, The Hotel, Pitlochry  
 1873 Fisher, Henry, Balbeuchly, Dundee  
 1870 Fisher, John, Knells, Carlisle  
 1878 Fisher, Joseph, Brunstock, Carlisle  
 1877 Fiskien, Thomas Robt. Hay, Delamere Villas, Dewsbury Road, Leeds  
 1861 Fleming, Alexander, Raith, Bothwell  
 1852 Fleming, Andrew, Mains of Fulwood, Paisley  
 1867 Fleming, David, Avonmill, Hamilton  
 1876 Fleming, David Gibson, Ardullie, Dingwall  
 1878 Fleming, Gavin, Crowdie Knowe, Ecclefechan  
 1869 Fleming, George, Crofthead, Mid-Calder  
 1857 Fleming, James, Coats, Penicnik  
 1854 Fleming, James, Three-Mile-Town, Linlithgow  
 1864 Fleming, James, Carmuir, Falkirk  
 1864 Fleming, J. N.  
 1877 Fleming, John, Ploughland, Strathaven  
 1865 Fleming, J., 18 Leadenhall Street, London  
 1870 Fleming, John, Meadowbank Cottage, Strathaven  
 1875 Fleming, John, Woodside, Rutherglen  
 1876 Fleming, J. B., 241 St Vincent Street, Glasgow  
 1857 Fletcher, Archibald, Tyndrum  
 1870 Fletcher, Bernard Jas. C., of Somerton Hall, Norfolk  
 1848 Fletcher, Major C. E., late of Corsack

Admitted

- 1865 Fletcher, James, of Rosehaugh, Avoch  
 1857 Fletcher, J., yr. of Salton, Tranent  
 1875 Fletcher, John, Bangour, Uphall  
 1872 Flint, Alex., Nether Mains, Chirnside  
 1869 Flint, David, Drylaw Mains, Davidson's Mains  
 1861 Flockhart, J., Banker, Colinsburgh  
 1865 Foggo, Robert Gordon, Invercauld Office, Ballater  
 1872 FORBES, Right Hon. Lord, Castle Forbes, Keig  
 1876 Forbes, Alex., Pitfourie, Pitlochry  
 1850 Forbes, Arthur, of Culloden, Inverness  
 1876 Forbes, Arthur Edward Whitmore, Campsea Ashe, Wickham Market  
 1856 Forbes, Charles William, late Moniack Castle, Inverness  
 1870 Forbes, Chas. W. L., Aberfeldy  
 1830 Forbes, George, Merchant, London  
 1865 Forbes, Duncan, of Leanach, Culloden House, Inverness  
 1862 Forbes, James Ochonar, of Corse, Lumphanan  
 1874 Forbes, James, Tombreck, Glenbucket, Aberdeen  
 1842 Forbes, Major-General John, of Inverernan, C.B., Strathdon  
 1850 Forbes, John, of Haddo, Huntly  
 1872 Forbes, John, Pitellachie, Coldstone, Dinnet, Aberdeenshire  
 1857 FORBES, Sir William, of Craigievar, Bart., Fintray House, Aberdeen  
 1835 Forbes, W., of Medwyn, 17 Ainslie Place, Edinburgh  
 1860 Forbes, William, of Callendar, Falkirk  
 1874 Forbes, William Forbes, of Lochcote, Bathgate  
 1878 Ford, George, Stankards, Uphall  
 1849 Ford, Wm., Hardengreen, Dalkeith  
 1878 Ford, William, of Ferneyside, Liberton  
 1868 Fordyce, James Dingwall, of Culsh, Advocate, 34 Great King Street, Edinburgh  
 1871 Forgan, Andrew, Barnhill, Broughty Ferry  
 1873 Forgan, James, jun., Sunnybraes, Leven  
 1831 Forman, Jn. Nairne, W.S., 8 Heriot Row, Edinburgh  
 1863 Forman, John, 51 Great King Street, Edinburgh  
 1852 Forman, Robert, Keith House, Upper Keith  
 1857 Forrest, David, of Treesbanks, Shotts  
 1843 Forrest, James, jun., Kirriemuir  
 1870 FORREST, Sir John, of Comiston, Bart., Lothian Burn  
 1867 Forrest, John Clark, of Auchenraith, Hamilton  
 1863 Forrest, Peter, of Hairmyres, Shotts

Admitted

- 1863 Forrest, William, of Lawmuir, Allanton, Hamilton  
 1842 Forrester, John, W.S., 8 Drummond Place, Edinburgh  
 1876 Forrester, Robert, 4 West Nile Street, Glasgow  
 1865 Forsyth, David, Town Clerk, Elgin  
 1863 Forsyth, George, Ashybank, Hawick  
 1872 Forsyth, Jas. (Hooper & Co.), Kelso  
 1874 Forsyth, Jas. Noel Muller, of Quinish, Tobermory, Mull  
 1878 Forsyth, John, Riffer Park, Sorbie  
 1855 Forsyth, John, Balnagown Estates Office, Parkhill  
 1878 Forsyth, Walter, Whitlee, Corslee, Stow  
 1874 Forsyth, William Banks, of the *Inverness Advertiser*, Inverness  
 1873 Fortescue, Archer, of Swanbister, Kingcausie, Aberdeen  
 1857 Fortune, George, Barnsmuir, Crail  
 1878 Fortune, John, Inglestone, Ratho  
 1854 Fortune, William R., of Muircambus, Colinsburgh  
 1878 Fotheringham, Richard P., Seedsman, Dumfries  
 1877 Foulis, David, 61 George Street, Edinburgh  
 1869 FOULIS, Sir James Liston, of Colinton, Bart., St Andrews  
 1871 Foulis, Dr Robert, of Cairney Lodge, Cupar Fife  
 1875 Foulds, A. R., of Clerkland, Stewarton  
 1870 Foulds, James, Cavens, Dumfries  
 1866 Fowler, Henry Mackenzie, of Raddery, Fortrose  
 1874 Fowler, William, of Asleed, Turriff  
 1876 Fowlie, George, V.S., Downiehills, Peterhead  
 1849 Fox, Michael, jun., late Glencorse Mains, Penicuik  
 1838 Fox, Richard M., of Foxhall, Rathowen, Ireland  
 1870 Fox, Wm., The Abbey, St Bees  
 1857 Foyer, David, Knowehead, Campsie  
 1872 France, C. S., Bank House, Penicuik  
 1867 France, Robert, Farniebank, Bridge of Allan  
 1874 Fraser, Alex., Barrisdale, Commercial Bank, Inverness  
 1857 Fraser, Alexander, Solicitor, 22 Union Street, Inverness  
 1868 Fraser, Alex. (Neill & Co.), Edinburgh  
 1865 FRASER, Col., the Hon. A. E., Eilan Aigeas, Beaulv  
 1820 Fraser, A. T. F., of Abertarff, Inverness  
 1840 Fraser, Evan Baillie, Balloan Cottage, Inverness  
 1869 Fraser, Fran. G., of Findrack, Torphins  
 1869 Fraser, Colonel Fred. Mackenzie, of Castle Fraser, Aberdeen

## Admitted

- 1873 Fraser, H. Newby, Homefarm, Rose-  
neath  
1853 Fraser, Hugh, Balloch of Culloden,  
Inverness  
1856 Fraser, Hugh, 29 Arundell Gardens,  
Kensington Park, London  
1874 Fraser, James, C.E., Inverness  
1874 Fraser, James, Mauld, Beauly  
1877 Fraser, James, 23B George Street,  
Edinburgh  
1840 Fraser, John, London  
1865 Fraser, Capt. John, of Balnain, Far-  
ralline, Stratherrick, Inverness  
1854 Fraser, Patrick Allan, of Hospitalfield,  
Arbroath  
1863 Fraser, Patrick, Sheriff of Renfrew and  
Bute, Dean of Faculty, Edinburgh  
1839 Fraser, Robert, Brackla, Nairn  
1850 Fraser, W. S., Banker, Dornoch  
1869 Fraser, Wm., Chemical Manufacturer,  
Broxburn  
1852 Fraser, William, of Kilmuir and New-  
ton, Nairn  
1861 Fraser, Wm., Greenhill, Dunning  
1865 Fraser, Wm., Annfield, Inverness  
1873 Fraser, Wm. A., Brackla, Nairn  
1859 Frazer, John, Overton, New Abbey,  
Dumfries  
1857 Frederick, D., of Gass, Dumbredan,  
Stranraer  
1869 Frederick, Robert, Drumflower, Glen-  
luce  
1877 Frederick, Thomas, Cairnhandy, Stoney-  
kirk, Stranraer  
1868 Freeland, Jas., Broadgate, Strathblane  
1855 French, James, Sortkjoer, Fredericks-  
haven, Denmark  
1877 French, James, Mountherrick, Abington  
1867 Frew, Thomas, 67 Great Western Road,  
Glasgow  
1854 Friar, Thomas, of Grindon Ridge,  
Norham-on-Tweed  
1875 Frier, Matthew, Kidston Mill, Peebles  
1873 Fryer, John J., Musiceller, Dumfries  
1857 Fulton, Andrew, 86 George St., Edin-  
burgh  
1863 Fulton, William, Hatchetnize, Cold-  
stream  
1847 Fyfe, John, late of Dalmarnock, Glas-  
gow  
1861 Fyfe, Robert, Hillhead House, Polmont  
1875 Fyfe, William, Newton of Glamis,  
Glamis  
1877 Fyshe, Peter, Wamphray, North Ber-  
wick  
1868 Gairdner, Chas., Union Bank, Glas-  
gow  
1873 Galashan, Chas. C., Saddler, Alloa  
1857 Galbraith, Alex., Croy Cunningham,  
Killearn  
1872 Galbraith, John, Edentaggart, Luss

## Admitted

- 1873 Galbraith, Thos. L., Town Clerk, Stir-  
ling  
1864 Galloch, J., Knockhill, Bridge of Allan  
1860+GALLOWAY, Right Hon. the Earl of,  
Galloway House, Carlisle  
1874 Galloway, Alex., C.E., Glendelvaine,  
Dunkeld  
1861 Galloway, David, Cairnie, Glencarse  
1859 Gangee, J., 1 Great Winchester Street  
Buildings, London, E.C.  
1859 Garden, Arch., Grauge Green, Forres  
1874 Garden, Robert, North Ythsie, Tarves  
1857 Garden, William, Braco Park, Fraser-  
burgh  
1857 Gardiner, George, Carrington Barns,  
Gorebridge  
1868 Gardiner, John, Cockburn, Balerno  
1864 Gardiner, P., Rottearns, Braco, Perth-  
shire  
1873 Gardiner, Patrick, Newbiggin, Auch-  
terarder  
1861 Gardiner, R., of Rottearns, Chapelbank,  
Auchterarder  
1870 Gardner, John, 4 Abbotsford Place,  
Glasgow  
1855 Gardner, Robert, Gattonside, Melrose  
1855 Gardner, Robert, Whitburn  
1873 Gardner, Wm., Kepdowrie, Bucklyvie  
1877 Gardner, Wm., House of Muir, Roslin  
1867 Gardyne, Col. C. G., of Finhaven,  
Forfar  
1851 Garland, Thomas, Ardlethen, Ellon  
1825 Gartshore, John Murray, of Ravelston,  
Murrayfield, Edinburgh  
1864 Gartshore, John, Seedsman, Falkirk  
1854 Gatherer, George, Solicitor, Elgin  
1859 Gaukroger, G., Southfield, Longniddry  
1837 Geekie, Alex., of Baldowrie, Coupar-  
Angus  
1837 Geekie, Peter, Barclay Hill, Perth  
1861 Geekie, Peter M., late Cortachy, Kirrie-  
muir  
1871 Geekie, Robert, yr. of Baldowrie, Rose-  
mount, Blairgowrie  
1872 Geikie, Archibald, Professor of Geology,  
University of Edinburgh, Borough-  
field House, Merchiston  
1844 Geils, J. E., of Dumbuck  
1877 Gell, H. Chandos Pole, Hopton Hall,  
Wirksworth  
1871 Gemmel, Andrew, Writer, Haddington,  
Secretary, United East Lothian Agri-  
cultural Society  
1875 Gemmell, Andrew, Caplaw, Neilston  
1875 Gemmell, Gilbert C., Upper White-  
haugh, Muirkirk  
1875 Gemmell, John, Wool Well, Roboro,  
Devon  
1840 Gentle, Robert, Inverness  
1842 Gerard, Archd., of Rochsoles, Airdrie  
1873 Gerrard, John, Veterinary Infirmary,  
Market Deeping—*Free Life Member*

Admitted

- 1871 Gibb, David, Lochty, Pittenweem  
 1878 Gibb, John, Shields Mains, Biggar  
 1878 Gibb, Robert Shirra, Boon, Lauder  
 1878 Gibbons, Robert, Mossband, Rockliff, Carlisle  
 1869 Gibbons, Thomas, 24 Cheswick Street, Carlisle  
 1849 GIBBS, Sir B. T. Brandreth, 47 Half Moon Street, Piccadilly, London  
 1871 Gibson, Charles, Pitlochry  
 1875 Gibson, Francis, Woolmet, Dalkeith  
 1876 Gibson, Henry John, Fornety, Foveran, Aberdeen  
 1871 Gibson, James, 34 Abbotsford Place, Glasgow  
 1876 Gibson, James, Glenstocking, Dalbeattie  
 1863 Gibson, James, 2 Chalmers Crescent, Edinburgh  
 1877 Gibson, James, Clifton Hall Mains, Ratho  
 1864 Gibson, J., Gunsgreen Hill, Ayton  
 1879 Gibson, John George, 24 Coates Gardens, Edinburgh  
 1853 Gibson, John, Toftcombs, Biggar  
 1860 Gibson, J. Tullowquhairn, Kirkbean, Dumfries  
 1875 Gibson, Jn., Langskail, Rousay, Orkney  
 1877 Gibson, John, Lambhill Street, Paisley Road, Glasgow  
 1875 Gibson, Robert, Auchineden, 'Strathblane  
 1843 Gibson, Thomas, Haymount, Kelso  
 1869 Gibson, Thomas, Bainfield, Fountainbridge, Edinburgh  
 1878 Gibson, Thomas, Sheriffyards, Clackmannan  
 1869 Gibsons, Lieut.-General, of Pentland, Red Cross Lodge, Leamington  
 1873 Giglioli, Italo, Florence—*Free Life Member*  
 1865 Gilchrist, Dugald, of Ospidale, Dornoch  
 1877 Gilchrist, Andrew, Carvennom, Anstruther  
 1876 Gilchrist, Andrew, Urie, Stonehaven  
 1875 Gilchrist, William, Knivocklaw, Loudoun  
 1842 Giles, James, Dresden  
 1848 Gilkison, Robert, jun., Glasgow  
 1875 Gill, John, Blingery, Wick  
 1864 Gillanders, J. F., of Highfield, Beaulieu  
 1836 Gillespie, Alex., Merchant, London  
 1871 Gillespie, Alex., Kirkton Barns, Ferry-Port-on-Craig  
 1841 Gillespie, David, of Mountquhannie, Cupar Fife  
 1849 Gillespie, James, Craigie, Cramond  
 1860 Gillespie, James, Gateside, Douglas  
 1875 Gillespie, James, St Colmes, Ballinluig  
 1875 Gillespie, James John, Parkhall, Dou-

Admitted

- 1847 Gillespie, John, W.S., 53 Northumberland Street, Edinburgh  
 1873 Gillespie, Rev. John, Mouswald Manse, Dumfries  
 1875 Gillespie, John, Land Steward, Minard, Inveraray  
 1877 Gillespie, Wm. C., Annanbank, Lock-erbie  
 1872 Gillies, Dr Hugh, Dunmore House, Easdale, Oban  
 1877 Gillies, William, Writer, Pollokshaws  
 1862 Gillison, Thomas, 3 Dryden Road, Edge Lane, Liverpool  
 1848 Gillon, Andw., of Wallhouse, Bathgate  
 1875 Gilmour, Alexander, Annfield House, Irvine  
 1849 Gilmour, Allan, of Eaglesham, Glasgow  
 1875 Gilmour, James, Orchardton, Cumnock  
 1872 Gilmour, John, younger of Lundin, Montrave, Kennoway  
 1863 Gilmour, John, of Mount Vernon, Row  
 1857 Gilmour, Matthew, Town of Inchinnan, Paisley  
 1828 Gilmour, W. J. Little, of Craigmillar, New Club, Edinburgh  
 1853 Gilmour, W. M., Glasgow  
 1855 Girdwood, Robert, Tanfield, Edinburgh  
 1876 Gladstone, John Robert, yr. of Fasque, Laurencekirk  
 1834 GLADSTONE, Sir Thomas, of Fasque, Bart., Laurencekirk  
 1853 Gladstone, Thomas Stewart, of Capenoch, Thornhill  
 1854† GLASGOW, Right Hon. the Earl of, Crawford Priory, Cupar Fife  
 1847 Glasgow, Alexander, of Old Court, Cork  
 1874 Glasgow, R. Bruce Robertson, of Montgreenan, Kilwinning  
 1857 Glegg, John, Factor, Milliken House, Johnstone  
 1873 Glen, James, Rosebank, Luss  
 1872 Glen, James, Stronafyne, Arrochar  
 1847 Glen, John, late Merchant, Edinburgh  
 1860 Glen, Robert R., Banker, Linlithgow  
 1865 Glen, Robert C., Auchenbach, Barrhead  
 1853 Glen, Thomas, Thornhill, Paisley  
 1869 Glendinning, Alex., Hatton Mains, Ratho  
 1849 Glendinning, George, Hatton Mains, Ratho  
 1873 Glendinning, Geo. P., Dalmeny Park, Edinburgh  
 1869 Glendinning, G. R., Hatton Mains, Ratho

## Admitted

- 1874 Glendinning, James P., Rawfarn, Mid-Calder  
 1848 Glendinning, Peter, Dalmeny Park, Edinburgh  
 1878 Gloag, Wm. Ellis, of Kincairney, 54 Northumberland Street, Edinburgh  
 1859 Glover, Andrew, Lanrick Castle, Stirling  
 1873 Goddard, H. R., Belsay, Newcastle-on-Tyne—*Free Life Member*  
 1877 Goff, Dr Bruce, Woodlea, Bothwell  
 1873 Gold, Joseph, Murthly Farm, Perth  
 1865 Goldie, R. G. M., 3 Comely Green Place, Edinburgh  
 1874 Goodbrand, Jas. H., Culnaha, Nigg, Ross-shire  
 1851 Goodlet, William, Bolshan, Arbroath  
 1875 Gordon, Adam Hay, of Mayen and Avochie, Huntly  
 1876 Gordon, Alex. Morrison, of Newton, Inch, Aberdeen  
 1875 Gordon, Arthur Newton Forbes, of Rayne, Pitcairney  
 1866 Gordon, Chris., late Cannerie, Parton  
 1873 Gordon, Carlos Pedro, of Wardhouse, Inch, Aberdeenshire  
 1876 Gordon, Charles, of Hallmyre, Laman-cha  
 1860 Gordon, David A., of Culvennan, Greenlaw House, Castle-Douglas  
 1840 GORDON OF DRUMEARN, Right Hon. Lord, 2 Randolph Crescent, Edinburgh  
 1860 Gordon, G. (Macbey & Gordon, Land Surveyor, Elgin), Tullochallum, Dufftown  
 1873 Gordon, Captain Geo. G., Milntown of Kilravock, Nairn  
 1875 Gordon, Graham, Middlecote House, Amport, Andover  
 1855 Gordon, H. G., late Oriental Bank, London  
 1860 Gordon, Henry, Sheriff-Clerk, Moatbrae, Dumfries  
 1876 Gordon, Henry, of Manar, Inverurie  
 1868 Gordon, Henry Wolrige, of Hallhead, Esselmont, Ellon  
 1877 Gordon, James, Castle-Douglas  
 1874 Gordon, James A., of Arabella, Udale, Invergordon  
 1838 Gordon, John, of Aikenhead, Cathcart  
 1870 Gordon, John, Culraven, Kirkcudbright  
 1871 Gordon, John, of Craigmyle, Torphins  
 1853 Gordon, John, Lettoch, Glenlivet, Ballindalloch  
 1875 Gordon, John, Balmuchy, Fearn  
 1831 Gordon, John Taylor, Bellevue Cottage, Ayr  
 1876 Gordon, Peter G., Nevie, Glenlivet, Ballindalloch  
 1846 Gordon, Robert Macartney, of Rattray, Ellenbank, Kirkcudbright

## Admitted

- 1870 Gordon, Robt. Wm., Comlongan Mains, Annan  
 1863 Gordon, Thomas Dempster, late of Balmaghie, Castle-Douglas  
 1870 Gordon, Thomas, 11 Grosvenor Crescent, Edinburgh  
 1847 Gordon, W. Cosmo, of Fyvie, Fyvie Castle, Aberdeen  
 1876 Gordon, William, Auchallater, Braemar  
 1876 Gordon, William, of Threave, Castle-Douglas  
 1879 GORDON, Sir William, of Earlstoun, Bart., Kirkcudbright  
 1876 Gossip, William, Park, New Machar  
 1866 Gough, Wm., Land Agent, Wykeham, York  
 1871 Goulding, W., North Wall, Dublin  
 1871 Gourlay, Robert Conning, Arbrack, Withorn  
 1851 Gow, John L., Raith, Kirkcaldy  
 1860 Gowans, James, Rockville, Napier Road, Edinburgh  
 1868 Grame, Robert, of Garvock, Perthshire  
 1873 Graham, Alexander, Blackwater, Kilmalcolm  
 1869 Graham, George, Oakbank, Longtown  
 1855 Graham, H., Auckland, New Zealand  
 1827 Graham, James (late of Leitchtown), Toronto, Canada  
 1848 Graham, James Maxtone, of Redgorton, Perth  
 1851 Graham, James, Parcelstown, Longtown  
 1863 Graham, James, late of Southbar, Paisley  
 1864 Graham, James, Myothill, Denny  
 1874 Graham, John, 7 Old Smithhills Street, Paisley  
 1852 Graham, John, of Shaw, Lockerbie  
 1842 Graham, John Murray, of Murrays-hall, Perth  
 1865 Graham, Paul, of Drynie, 1 Carlisle Place, Victoria Street, London  
 1873 Graham, Robert G., Burnfoot-on-Esk, Longtown  
 1834 Graham, Col. William, of Mossknowe, Ecclefechan  
 1871 Graham, William, Easter Caputh, Dunkeld  
 1876 Graham, Wm., Wheatlands, Cramond Bridge  
 1869 Graham, Wm. C., Elengall Villa, Blackheath, London  
 1833 Graham, W. Stirling, of Airth, Larbert  
 1873 Grahame, James, of Auldhouse, Pollokshaws  
 1873 Granger, Andrew  
 1861 Granger, John, Pitcur, Capar Angus  
 1872 GRANT, Sir Alex., Bart., Principal of the Edinburgh University, 21 Lansdowne Crescent

Admitted

- 1854 GRANT, Sir Archd., of Monymusk, Bart., Aberdeen  
 1872 Grant, A., Ardkinglas, Cairndow  
 1862 Grant, Charles, Hazelbrae, Glen Urquhart  
 1874 Grant, Charles T. C., of Kilgraston, Bridge of Earn  
 1868 Grant, D. R. Lyall, of Kingsford, Aberdeen  
 1875 Grant, Duncan J., Dandaleith, Craigellachie  
 1858 Grant, Francis William (Monymusk), 40 Pall Mall, London  
 1869 Grant, Captain Frederick G. Forsyth, of Ecclesgreig, Montrose  
 1876 Grant, George, Glenfarclas, Ballindalloch  
 1874 Grant, George, Pollo, Invergordon  
 1859 GRANT, Sir George Macpherson, of Ballindalloch, Bart., Ballindalloch  
 1876 Grant, George Smith, Auchorachan, Glenlivet  
 1828 Grant, Rev. James, D.C.L., D.D., 15 Palmerston Place, Edinburgh—*Chaplain to the Society*  
 1865 GRANT, Lieut.-Col. the Hon. James, of Grant, Mayne House, Elgin  
 1871 Grant, John, Inverlaidnan, Carr Bridge  
 1876 Grant, John, Banker, Methlic  
 1865 Grant, John, 57 South Guildry Street, Elgin  
 1853 Grant, Kenneth, Invergordon  
 1862 GRANT, Lieut.-Gen. Sir Patrick, G.C.B.  
 1841 Grant, Robert, of Drumminor, Rhynie  
 1842 Grant, Robert, Bookseller, 107 Princes Street, Edinburgh  
 1878 Grant, Thomas B., 23 Bachelors' Walk, Dublin  
 1846 Grant, Thos. Macpherson, of Craigo  
 1874 Grant, Major William, Drumbuie, Glen Urquhart, Inverness  
 1862 Grant, William, Wester Alves, Forres  
 1839 Grant, William, Australia  
 1874 Grant, Colonel W. L., Borgie House, Farr, Thurso  
 1829 Grassick, John, 21 Ferryhill Place, Aberdeen  
 1878 Gray, Adam, jun., Ingleston of Borgue, Kirkcudbright  
 1859 Gray, Alex., Tanlawhill, Langholm  
 1873 Gray, Andrew, West Pleat, Stirling  
 1867 Gray, George, Windyyet, Falkirk  
 1873 Gray, James, Birkenwood, Gargun-  
 nock  
 1861 Gray, Jas., Braehead Mains, Cramond  
 1868 Gray, James, Craigs, Stirling  
 1871 Gray, James, Kirkton of Collace, Bal-  
 beggie, Perth  
 1871 Gray, John, Merchant, Helensburgh  
 1876 Gray, John, 15 Exchange Square,  
 Glasgow  
 1856 Gray, John, Engineer, Uddingston

Admitted

- 1878 Gray, Robert Smith, Southfield, Dud-  
 dington  
 1854 Gray, Patrick, Middle Strath, Falkirk  
 1854 Gray, Thomas, Coul, Markinch  
 1858 Gray, Thomas R., St Margaret's, Chel-  
 tenham  
 1849 Gray, Wm., Southfield, Duddingston,  
 Edinburgh  
 1855 Gray, William, Brownrigg, North  
 Berwick  
 1874 Green, Robert, Ruthrie, Aberlour,  
 Craigellachie  
 1857 Green, William, Lynnburn, Aberlour,  
 Craigellachie  
 1873 Greenlees, Alex., Summerhill, Camp-  
 beltown  
 1867 Greenshields, James, West Town, Les-  
 mahagow  
 1876 Greenshields, Thomas A., Stonehill,  
 Abington  
 1854 Gregory, Alex. Allan, Corn Merchant,  
 Inverness  
 1833 Gregory, Arthur Thomas, late of Buch-  
 rombe, Dufftown  
 1875 Gregory, John, Westoe, South Shield-  
 1871 Greig, David (John Fowler & Co.),  
 Leeds  
 1873 Greig, David, Muircote, Tillicoultry  
 1868 Greig, George (Harvieston, Stonehaven),  
 1 India Buildings, Edinburgh  
 1870 Greig, J. A., Terreglestown, Dumfries  
 1873 Greig, James Booth, Secretary, Kin-  
 cardineshire Farmers' Club, Laurence-  
 kirk  
 1877 Greig, John, Fountain House Works,  
 Fountainbridge, Edinburgh  
 1869 Greig, Peter M., 56 Inverleith Row,  
 Edinburgh  
 1877 Greig, Robert M., Fountain House  
 Works, Fountainbridge, Edinburgh  
 1852 Greig, Thomas, of Glencarse, Perth  
 1861 Greig, T. Watson, Newton House,  
 Glencarse, Perth  
 1854 Grey, Geo. A., Millfield Hill, Wooler  
 1860 GRIERSON, Sir Alex. William, of Lagg,  
 Bart., Rockhall, Mouswald, Dumfries  
 1851 Grierson, J., Little Kirkland, Haugh  
 of Urr, Dalbeattie  
 1855 Grierson, James, of Dalgoner, Dun-  
 score  
 1860 Grierson, J., Lansdowne Villa, Kirk-  
 cudbright  
 1859 Grierson, Jos., Breoch, Castle-Douglas  
 1860 Grierson, Robert, West Mains, Mous-  
 wald, Dumfries  
 1859 Grierson, Wm., Tors, Castle-Douglas  
 1878 Grierson, Wm., Oxbang, Torthorwald  
 1872 Grieve, Archd., Albyrigg, Canonbie  
 1878 Grieve, Chas. John, Branzholm Park,  
 Hawick  
 1867 Grieve, D., Blackberry Hill, Whit-  
 burn

## Admitted

- 1878 Grieve, Gilbert, Minnydow, Kirkpatrick-Durham, Dalbenttie  
 1873 Grieve, James, Borthwickbrae Burnfoot, Hawick  
 1872 Grieve, Jas., Branhholm Braes, Hawick  
 1858 Grieve, John, Castles, Dalmally  
 1869 Grieve, John, St James' Hall, Regent Street, London  
 1877 Grieve, John, Merchant, North Berwick  
 1859 Grieve, Michael, Callander  
 1857 Grieve, Robert, Auch, Tyndrum  
 1857 Grieve, Robert, Edralaichdach, Trosachs, Callander  
 1861 Grieve, Walter, Cattleshiel, Dunse  
 1854 Grieve, William, Skelfhill, Hawick  
 1858 Grigor, James D., Wester Alves, Forres  
 1847 Grigor, John, Nurseries, Forres  
 1871 Grimond, Alex. D., of Glenericht Blairgowrie  
 1872 Guild, Andrew, Rhoders, Alva  
 1868 Guild, James, Balgone Barns, North Berwick  
 1874 Guild, James Lyon, Abbey, North Berwick  
 1863 Guild, James Wyllie, C.A., Glasgow  
 1877 Gulland, Wm. John, Monkton Hall, Musselburgh  
 1856 Gulston, Alan Jas., of Dirleton, Llangadock, Carmarthenshire  
 1858 Gunn, Alexander, Dale, Halkirk, Golspie  
 1856 Gunn, Alexander, Dornoch  
 1839 Gunn, James, Sibster, Wick  
 1849 Gunn, Marcus, Culgower, Golspie  
 1875 Gunn, Wm., Strathpeffer, Dingwall  
 1874 Gunniss, Geo. Ponton, Leckie House, Stirling  
 1854 Guthrie, David, Banker, Stranraer  
 1857 Guthrie, Robert, Crossburn, Troon  
 1874 Gwyer, Cecil F., Biallid, Kingussie  
 1834 Gwynne, Alban Thomas Jones, of Monachty, Cardigan  
 1857†HADDINGTON, Right Hon. the Earl of, Tynningham, Prestonkirk  
 1857 Haddon, Andrew, Honeyburn, Hawick  
 1854 Hadwen, S., Kildonan Lodge, Golspie  
 1862 Hagart, Colonel, The Cleave, Torquay  
 1869 Hagart, James Valentine, W.S., 140 Princes Street, Edinburgh  
 1871 Haggart, Peter, Keltneyburn, Aberfeldy  
 1874 Haig, Archd. R., Quarryford, Gifford  
 1869 Haig, Hugh V., Cameron House, Windygates  
 1874 Haig, James Richard, of Blairhill, Stirling  
 1875 Haig, J. W., of Dollarfield, Dollar  
 1869 Haig, W. H. (Cameron House, Windygates), 42 Palmerston Place, Edinr.  
 1857 Haig, William (late North Street, St Andrews), Australia

## Admitted

- 1861 Hain, David, Drumrack, Crail  
 1871 Hain, Thomas, Balmullo, Leuchars Fife  
 1861 Haining, John, Boghead, Mouswald, Dumfries  
 1870 Haining, J. J., Skipmyre, Lochmaben  
 1877 Hair, Ivie, Carnwath  
 1859 Haldane, Robert, Fernielee, Galashiels  
 1864 Halkett, Jas., Auchentender, Inch  
 1864 Halkett, Lieut.-Col. John Craigie, of Cramond, Edinburgh  
 1861 Hall, Alex., Rhynd, Leuchars, Fife  
 1876 Hall, Alexander H., Campfield, Banchoory  
 1873 Hall, Allan, Ardaddy, Easdale, Oban  
 1855 Hall, Andrew, of Calrossie, Tain  
 1878 Hall, Sir Basil F., of Dunglass, Bart., Cockburnspath  
 1874 Hall, George Ross, Invergordon  
 1868 Hall, James, 33 Frederick Street, Aberdeen  
 1875 Hall, James M., of Tangy and Killcan, Killcan House, Tayinloan  
 1874 Hall, John, Tonich, Invergordon  
 1877 Hall, Robert, Linton Cottage, Penicuik  
 1877 Hall, William, Linton Cottage, Penicuik  
 1877 Hall, Thomas Farmer (Thomas Farmer & Co.), Dunster House, Mark Lane, London, E.C.  
 1867 Hallen, J. H. B., M.R.C.S.E., Staff-Vet. Surgeon, H.M. Bombay Army  
 1868 Halley, George, New Mills, Culross  
 1870 Halley, John, Dornoch Mills, Crieff  
 1865 Halliday, Thomas, Rosehall Foundry, Haddington  
 1877 Halliday, Thomas Scott, Kinniel, Bo'ness  
 1865†HAMILTON & BRANDON, His Grace the Duke of, K.T.  
 1874 Hamilton, Alex., of Rozelle, Ayr, Commander R.N.  
 1868 Hamilton, Claude Hamilton, Preston Hall, Dalkeith  
 1861 Hamilton, Daniel, 66 Hutchison Street, Glasgow  
 1875 Hamilton, Gavin, of Auldtown, Lesmahagow  
 1869 Hamilton, George, Ardendee, Kirkcudbright  
 1876 Hamilton, George, Skene House, Skene, Aberdeen  
 1853 Hamilton, Hugh, of Pinmore, Girvan  
 1865 Hamilton, James, Wallace Bank, Kilmarnock  
 1869 Hamilton, J. B. Baillie, of Arnprior, Cambusmore, Callander  
 1869 Hamilton, James, Woolfords, Carnwath  
 1870 Hamilton, John, Conenish, Tyndrum

Admitted

- 1839 Hamilton, Lieut.-Col. John, of Sundrum, Ayr  
 1872 Hamilton, John, Banker, Lesmahagow  
 1875 Hamilton, John, Wellwood, Muirkirk  
 1846 Hamilton, John Buchanan, of Leny, Callander  
 1857 Hamilton, John G. Carter, of Dalzell, Motherwell  
 1855 Hamilton, J. B. (late Burnhouse, Carnwath), London  
 1870 HAMILTON, The Hon. R. B., M.P., Langton, Dunse  
 1871 Hamilton, Robt., Denmarkfield, Redgorton  
 1873 Hamilton, Robert, 30 Hanover Street, Edinburgh  
 1877 Hamilton, Thomas, Poniel, Douglas, Lanarkshire  
 1878 Hamilton, Thomas, Brick and Tile Manufacturer, Carstairs  
 1871 Hamilton, William, Denmarkfield, Redgorton  
 1864 Hamilton, William, of Cairns, Mid-Calder  
 1874 Hamilton, William Cameron, Baltasound, Unst  
 1859 Hamilton, Wm. F., Callander Park, Falkirk  
 1872 Handyside, J. B., 49 Northumberland Street, Edinburgh  
 1875 Handyside, Thomas, 10 Leonard Bank, Perth  
 1843 Handyside, W., 11 Claremont Crescent, Edinburgh  
 1854 Hannan, J., The Terrace, Pocklington, Yorkshire  
 1872 Hannan, J. D., 6 Crawford Road, Edinburgh  
 1858 Hannay, John, Gavenwood, Banff  
 1876 Hannay, Robert, late of Hanley, Corstorphine  
 1871 Hardie, Chas., Primrose, Dunfermline  
 1870 Hardie, David, Priestthaugh, Hawick  
 1875 Hardie, Edmund W., Locher House, Bridge of Weir  
 1851 Hardie, George, Australia  
 1878 Hardie, John, jun., Mull of Galloway, Stranraer  
 1861 Hardie, Robert, Harrietfield, Kelso  
 1863 Hardie, W. H., Bo'Mains, Linlithgow  
 1878 Hare, Lieut.-Col., Philpston House, Winchburgh  
 1873 Harley, D., Hillwood Cottage, Ratho  
 1853 Harper, Frank, Torgorm, Dingwall  
 1876 Harper, Frank Vogan, Bridgend, Linlithgow  
 1867 Harper, Joseph, Snawdon, Gifford  
 1871 Harper, William, Sheriffhall Mains, Dalkeith  
 1864 Harris, Richard H., Earnhill, Forres  
 1871 Harris, William, Cranley, Meikleour  
 1867 Harris, William, Tirinie, Aberfeldy

Admitted

- 1864 Harrison, George, 17 Whitehouse Terrace, Edinburgh  
 1846 Harrop, I. Worthington, New Zealand  
 1869 Hart, J. Christine, Borrostone, Kincardine O'Neil  
 1873 Hart, William, Kirklands, Auchterarder  
 1850 Harvey, George, Whittingham Mains, Prestonkirk  
 1876 Harvey, George Thomson, Aberdeen Lime Co., Aberdeen  
 1854 Harvey, J. H., Pitgersie, Foveran, Ellon  
 1852 Harvie, Rev. W., of Brownlee, Carlisle  
 1860 Hathorn, John Fletcher, of Castlewigg, Whithorn  
 1875 Haughton, Wm. Hoghton, Factor, Craigowan, Kilmarnock  
 1875 Hay, Alexander, Gifford Vale, Gifford  
 1864 Hay, Alexander, Trochelhill, Fochabers  
 1870 Hay, Alexander, Easter Culmalundie, Perth  
 1874 Hay, Alexr. Penrose, Riverdale, Inverness  
 1862 Hay, Col. A. S. Leith, of Rannes, C.B., Leith Hall, Kennethmont  
 1865 Hay, C., Ardbeg, Islay, Greenock  
 1862 Hay, Colonel Drummond, of Seggieden, Perth  
 1841 Hay, Geo. W. (of Whiterigg), Sudbury  
 1862 Hay, Captain J. G. Baird, of Belton, Dunbar  
 1862 Hay, James, 28 Queen Street, Edinburgh  
 1828 Hay, James, Links, Leith  
 1853 Hay, James, jun., Little Ythsie, Tarves  
 1855 Hay, J., Nether Mill, Tarves  
 1878 Hay, James Tonner, of Whitmuir, Selkirk  
 1878 Hay, James S., Clydesdale Bank, Falkirk  
 1878 Hay, James Francis Dalrymple, yr. of Park Place, Auchendoon, Newton-Stewart  
 1848 HAY, Sir John C. Dalrymple, of Park Place, Bart., M.P., Glenluce  
 1867 HAY, Sir Robert, of Haystoun, Bart., Kingsmeadows, Peebles  
 1869 Hay, William, 17 Hill Street, Edinburgh  
 1876 Hayman, John, Dumfries House Mains, Cumnock  
 1872 Hazle, Alex., of Blackernaig, Drumburle House, Maybole  
 1876 Hector, Andrew Edward, Collyhill, Inverurie  
 1871 Heggie, Henry, Mains of Beath, Crossgates  
 1871 Heggie, Robt. B., West End House, Kinkcaldy



## Admitted

- 1860 Hunter, Evan Alan, W.S., 121 Princes Street, Edinburgh  
 1861 Hunter, Herbt., of Burnhead, Lock-  
 erbie  
 1876 Hunter, James, of Antonshill, Cold-  
 stream  
 1867 Hunter, James, Coplawhill, Strath-  
 bungo, Glasgow  
 1852 Hunter, James, of Glenapp, Newmains  
 House, Newmains  
 1879 Hunter, James, Upper Draw Bridge,  
 Leith  
 1876 Hunter, John, Confunderland, Leochel-  
 Cushnie  
 1864 Hunter, John, Dipple, Fochabers  
 1875 Hunter, John, Nethershiel, Mid-Calder  
 1877 Hunter, John, jun., Woodhall Mains,  
 Juniper Green  
 1871 Hunter, Patrick, Argaith, Perth  
 1879 Hunter, Major Patrick, of Auchter-  
 arder  
 1878 Hunter, Thomas, Maybole  
 1862 Hunter, Robt., 10 Ainslie Place, Edin-  
 burgh  
 1869 Hunter, William, Craighead, Abington  
 1870 Hunter, William, Crawfordton Lodge,  
 Moniaive  
 1853 Hunter, William B., Haugh, Kirkliston  
 1857 Hunter, William, Machribeg, Camp-  
 beltown  
 1877 Hunter, William Frederick, of Hafton,  
 Advocate, 1 Ainslie Place, Edin-  
 burgh  
 1872 HUNTLY, Most Noble the Marquis of,  
 Aboyne Castle, Aboyne  
 1876 Hurl, John, 68 Bath Street, Glasgow  
 1859 Husband, Robert, Gellet, Dunfermline  
 1838 Hutchinson, Jas., Merchant, Glasgow  
 1857 Hutchison, James, Mouswald Farm,  
 Dumfries  
 1872 Hutchison, James Thomas, 28 Royal  
 Terrace, Edinburgh  
 1879 Hutchison, John Wm., of Edinghame,  
 Argrennan, Castle-Douglas  
 1871 Hutchison, Robt., Merchiston Avenue,  
 Edinburgh  
 1829 Hutchison, R., of Cairngall, Longside  
 1850 Hutchison, Robt., Braehead, Kirkcaldy  
 1858 Hutchison, R., of Carlowrie, 29 Chester  
 Street, Edinburgh  
 1875 Hutchison, Thomas, Bellfield, Dud-  
 dington  
 1870 Hutchison, Thomas, Broomhill, Loan-  
 head  
 1868 Hutton, Arthur, Comlongan Castle,  
 Annan  
 1878 Hutton, James, Charter House, Max-  
 welltown, Dumfries  
 1859 Hyndman, Henry C., of Springside, 6  
 South Park Terrace, Hillhead, Glas-  
 gow  
 1870 Hyslop, And., Auchencroch, Dalbeattie

## Admitted

- 1873 Imrie, John L., Blackhill, Maryhill,  
 Glasgow  
 1869 Ineh, James G., Mitchelhill, Biggar  
 1855 Inch, John, West Mains, Liberton  
 1878 Inch, John, Howburn, Walston  
 1877 Inch, Robert, 1 Victoria Street, Edin-  
 burgh  
 1870 Inch, Thomas, Gilkerscleuch, Abing-  
 ton  
 1869 Inglis, Alex. Wood, yr. of Glencorse,  
 30 Abereromby Place, Edinburgh  
 1874 Inglis, David, Flemington, Lerwick  
 1864 Inglis, George, Dron, Cupar Fife  
 1847 Inglis, Harry Maxwell, of Loganbank,  
 P.C.S., 11 Coates Crescent, Edin-  
 burgh  
 1849 Inglis, Henry  
 1856 Inglis, Lieut.-Col. Hugh, of Kingsmills,  
 Inverness  
 1852 INGLIS, Right Hon. John, of Glencorse,  
 Lord Justice-General, 30 Abereromby  
 Place, Edinburgh  
 1860 Inglis, John, Steam Mills, Leith  
 1857 Inglis, John, of Redhall, Slateford  
 1864 Inglis, John, Kepdarroch, Gargun-  
 nock  
 1865 Inglis, Peter, East Pilton, Ferry Road,  
 Edinburgh  
 1877 Inglis, Peter, Rosebery, Gorebridge  
 1877 Inglis, Robert, Lovestone House,  
 Girvan  
 1857 Inkson, Patrick, Berryleys, Keith  
 1876 Inkson, Thomas F., Kinermony, Craig-  
 ellachie  
 1840 Innes, Alex., of Raemoir, Banchory  
 1842 Innes, Alexander Mitchell, of Ayton  
 1874 Innes, Charles, Solicitor, Inverness  
 1865 Innes, William Mitchell, yr. of Ayton  
 1847 Innes, George Mitchell, of Bangour,  
 32 Buckingham Terrace, Edinburgh  
 1847 Innes, John B., W.S., 11 Moray Place,  
 Edinburgh  
 1846 Innes, Col. Thomas, of Learney, Tor-  
 phins  
 1842 Innes, Thos. S. Mitchell, of Phantassie,  
 Prestonkirk  
 1862 Innes, T. G. Rose, of Netherdale,  
 Turriff  
 1876 Innes, William, Meikle Clinterty, New-  
 hills, Blackburn, Aberdeen  
 1876 INVERURIE, Right Hon. Lord, Dun-  
 nichen House, Forfar  
 1858 Ironside, John, Brindy, Keig, White-  
 house, Aberdeen  
 1859 Ironside, William, Clofrickford, Ellon  
 1845 Irvine, Alex. Forbes, of Drum, Sheriff  
 of Argyll, 25 Castle Terrace, Edin-  
 burgh  
 1873 Irvine, George Forbes, Nigg, Ross-  
 shire  
 1869 Irvine, Walter, Grangemuir, Pitten-  
 ween

**Admitted**

- 1843 Irvine, Wm. Stewart, M.D., Craigatin, Pitlochry  
 1870 Irvine, Ben., Barndennoch, Auldgrith, Dumfries  
 1870 Irving, Chris., Blackearn, Castle-Douglas  
 1870 Irving, John, Borland, Dunscore, Dumfries  
 1838 Irving, John, London  
 1869 Irving, J. Bell, of Whitehill, Lockerbie  
 1872 Irving, Sam., Carco, Kirkconnel, Sanquhar  
 1878 Irving, Thomas, Curriestanes, Dumfries  
 1872 Jack, Gavin, North Gyle, Corstorphine  
 1864 Jack, John S., Cambusdrennie, Stirling  
 1863 Jack M., Peggy's Mill, Cramond Bridge  
 1860 Jack, Samuel, Mersington, Coldstream  
 1855 Jack, Robert, Banker, Motherwell  
 1869 Jack, Thos., Riccarton Mains, Currie  
 1870 Jackson, John, Bush, Ewes, Langholm  
 1876 Jaffray, Arthur, Banks, Fyvie  
 1876 Jaffray, James, Belmont, Unst  
 1852 Jameson, Melville, Solicitor, Perth  
 1858 Jamieson, David, Auchmithie Mains, Arbroath  
 1876 Jamieson, George, Lord Provost of Aberdeen  
 1860 Jamieson, George Auldjo, C.A., 58 Melville Street, Edinburgh  
 1874 Jamieson, James Auldjo, W.S., 14 Buckingham Terrace, Edinburgh  
 1871 Jamieson, James Fyfe, 9 Queen's Gate, London.  
 1860 Jamieson, Jn., of Kingask, St Andrews  
 1865 Jamieson, Michael J., of Arngomery, Kippen, Stirling  
 1874 Jamieson, Robert J., S.S.C., Borrowstounness  
 1871 Jamieson, Thomas, High Curghie, Drumore, Stranraer  
 1871 Jamieson, Thomas F., Mains of Water-ton, Ellon  
 1875 Jamieson, William, of Shandon, Helensburgh  
 1876 Jamieson, William T., Solicitor, Anstruther  
 1858 Jamieson, Wm. H., Mayshade, Loanhead  
 1850 JARDINE, Sir Alexander, of Apple-garth, Bart., Jardine Hall, Lockerbie  
 1846 Jardine, Andrew, of Lanrick, Stirling  
 1878 Jardine, Andrew, Ballemenoch, Row  
 1878 Jardine, Arthur Murray, of Granton, Moffat  
 1846 Jardine, James, of Larriston, Dryfe-holm, Lockerbie  
 1854 Jardine, John, of Thorlieshope, Arkle-ton, Langholm

**Admitted**

- 1868 Jardine, Robert, of Castlemilk, Lockerbie  
 1877 Jardine, William, Bogside, Fintry, Glasgow  
 1870 Jefferson, Robt., Preston Hows, White-haven  
 1857 Jeffray, John, Cardowan House, Mil-lerston, Glasgow  
 1859 Jeffrey, John, of Balsusney, Largo House, Largo  
 1869 Jeffrey, David, 14 Randolph Crescent, Edinburgh  
 1873 Jenkinson, Alex., 10 Princes Street, Edinburgh  
 1855 Jobson, William, Newton Barns, Chat-hill  
 1872 Johnson, W. H., Ramrig, Ladykirk, Berwickshire  
 1836 Johnston, Alexander, W.S., Johnston, Rubialaw, Aberdeen  
 1852 Johnston, Alexander, Hailes, Slateford  
 1877 Johnston, Alexander, North Mains, Ormiston  
 1872 Johnston, Donald, Kilbride, Easdale, Oban  
 1857 Johnston, G., M.D., Fincaigs, New-port  
 1853 Johnston, George, Marlefield, Kelso  
 1872 Johnston, George, Aquhorthies, Inve-rurie  
 1860 Johnston, James, Banker, Dumfries  
 1857 Johnston, James, Huntington, Lauder  
 1876 Johnston, Jas., Pather Farm, Wishaw  
 1871 Johnston, James, Cattle-dealer, Perth  
 1878 Johnston, James, Lochburnie, Mary-hill  
 1879 Johnston, James, junior, Secretary, Orkney Agricultural Society, Ophir, Orkney  
 1877 Johnston, James, Gairloch, Dumfries  
 1856 Johnston, John, Banker, Bathgate  
 1853 Johnston, J. S., Craillinghall, Jed-burgh  
 1839 Johnston, Robert, Kimmundy, Skene, Aberdeen  
 1860 Johnston, Lieut.-Gen., of Carnsalloch, Castle-Douglas  
 1871 Johnston, Stewart J., Cattle-dealer, Perth  
 1859 Johnston, Thomas, Lochhouse, Moffat  
 1848 JOHNSTON, Sir William, of Kirkhill, Gorebridge  
 1852 Johnston, William, Writer, Bathgate  
 1876 Johnston, William, Mill of Haulkerton, Laurencekirk  
 1857 Johnston, Wm., Ranachan, Campbel town  
 1850 Johnstone, Christopher, Dinwoodi Lodge, Lockerbie  
 1842 JOHNSTONE, Hon. Henry Butler, of Corehead, Auchen Castle, Moffat  
 1828 Johnstone, James, of Alva, Stirling

## Admitted

- 1873 Johnstone, James, Hunterheck, Moffat  
 1876 Johnstone, John, Drumwhindle Mains, Ellon  
 1873 Johnstone, John, of Hallheaths, Lockerbie  
 1869 Johnston, John, Kingledoors, Biggar  
 1875 Johnstone, John, Auchcairn, Laurencekirk  
 1859 Johnstone, John A., Archbank, Moffat  
 1870 Johnstone, John Jas. Hope, of Annandale, M.P., Raehills, Moffat  
 1865 Johnstone, Miss Hope, of Annandale, Marchbank Wood, Moffat  
 1877 Johnstone, Laurence (of Sands, Perth), 25 Saxe-Coburg Place, Edinburgh  
 1859 Johnstone, Robert, Polmoodie, Moffat  
 1859 Johnstone, Walter, Alton, Moffat  
 1878 Johnstone, William, of Cowhill, Dumfries  
 1874 Johnstone, W. M., National Bank of Scotland, Cupar-Fife  
 1829 Jolly, David Leitch, Banker, Perth  
 1862 Jones, Charles, Digby, late Kilchamaig, Whitehouse, Kintyre  
 1865 Joss, Alexander, Cruchie, Huntly  
 1865 Joss, John, Budgate, Cawdor, Nairn  
 1873 Jukes, R. F., Cotwall, Wellington, Salop—*Free Life Member*  
 1858 Kay, Charles, Glenburgie, Forres  
 1875 Kay, Charles, Mill Farm, Gargunnock  
 1871 Kay, Duncan James, of Drumpark, Dumfries  
 1864 Kay, James, Hillhead, Gargunnock  
 1863 Kay, John, Softlaw, Kelso  
 1872 Kay, John, jun., Softlaw, Kelso  
 1867 Kay, Robert, Tuns, Minard, Inveraray  
 1871 Kay, Robert, Linton Bankhead, Kelso  
 1863 Kay, Wm., Broomieknowe, Lasswade  
 1863 Kay, William, Inch Farm, Kincardine-on-Forth  
 1844 Keir, Andrew T., Kinbrace, Sutherlandshire  
 1864 Keir, Duncan, Buchlyvie, Stirling  
 1837 Keir, Patrick Small, of Kindrogan, Pitlochry  
 1857 Keir, Simon, Conservative Club, London  
 1859 Keir, William, of Whithaugh, Newcastleton  
 1867 Keir, William A., yr. of Kindrogan, Pitlochry  
 1876 Keith, Alexander, Chapelton, Ellon  
 1876 Keith, James, Newton of Kinnmundy, Mintlaw  
 1865 Keith, Peter, Factor, Barogill Castle, Wick  
 1872 Kellie, John B., Ladywell, Dunse  
 1874 Kelman, William, Balnagore, Fearn  
 1876 Kemp, Charles, Methercluny, Dufftown

## Admitted

- 1852 Kemp, Jn., Agricultural Implement Maker, Stirling  
 1879 Kennedy, Capt. A. W. M. Clark, of Knockgray, Dunskey, Portpatrick  
 1863 Kennedy, David, Castlehill, Dumfries  
 1866 Kennedy, Duncan C., of Glenstriven, Innellan  
 1865 Kennedy, Henry H., Rossie Castle, Montrose  
 1859 Kennedy, Jas., of Sundaywell, Brandleys, Sanquhar  
 1874 Kennedy, John, Forester, Balmacaan, Glen Urquhart  
 1871 Kennedy, John, Royal George Hotel, Perth  
 1878 Kennedy, John B., Stenhouse, Thornhill  
 1878 Kennedy, John Gillison, Newlands, Dumfries  
 1846 Kennedy, John Lawson, of Knocknailing, Dalry  
 1878 Kennedy, John Murray, yr. of Knocknailing, Dalry, Galloway  
 1812 KENNEDY, Rt. Hon. T. F., of Dunure, Ayr  
 1872 Kennedy, Thos., Coachbuilder, Kelso  
 1875 Kennedy, William, 89 Marine Parade, Brighton—*Free Life Member*  
 1842 Kennedy, Wm., Commission Agent, Glasgow  
 1870 Kennedy, Wm., Kirkland, Sanquhar  
 1874 Kennedy, William, Sherramore, Kinnussie  
 1860 Kennoway, Robt., Burnhead, Lasswade  
 1863 Ker, E. Martin (late of Gateshaw, Morebattle, Kelso), London  
 1854 Ker, Robert, of Douglaston, Milngavie  
 1878 Ker, T. Ripley, yr. of Dougalston, Milngavie  
 1864 Kerr, Abram, Castlehill, Durisdeer, Thornhill  
 1878 Kerr, Arch., Kilnpottees, Lockerbie  
 1869 Kerr, James, Lochend, Kilbirnie  
 1853 Kerr, John, Land-Surveyor, Dunso  
 1859 Kerr, John, Broomhouse, Corstorphine  
 1875 Kerr, John, Blountfield, Dumfries  
 1875 Kerr, John H., Kinnoull, Perth  
 1875 Kerr, John Graham, Illieston, Broxburn  
 1870 Kerr, Jos., Flatts of Cargen, Dumfries  
 1857 Kerr, Robt., of Chapeldonan, Edinburgh  
 1877 Kerr, Robert, Factor, Ballikinrain, Killearn  
 1860 Kerr, Thomas, Whitehill, Sanquhar  
 1845 Kerr, William Williamson, late Oriel College, Oxford  
 1875 Kerr, William, Newhouse, Dalry  
 1878 Kerr, Wm., Mid-Dargavel, Dumfries

**Admitted**

- 1838 Kerr, W. S., of Chatto, Sunlaws, Kelso  
 1865 Kidd, Alexander F., East High Street, Airdrie  
 1874 Kidd, Hugh, V.S., 63 Wide Bargate, Boston, Lincolnshire  
 1858 Kidd, J., Balmirner, Carnoustie  
 1869 Kidd, Walter, Balleny, Currie  
 1850 Kidston, Jn. P. (of Newtown, Cambuslang), 81 Great Clyde Street, Glasgow  
 1875 Kidston, Richard, 81 Great Clyde Street, Glasgow  
 1864 Kier, Thomas, Newlands, Falkirk  
 1876 Kilgour, Robert, junior, Ardlin, Ellon  
 1826 Kilgour, Robert, jun., late Millbank, Aberdeen  
 1862 Kilpatrick, P., Stancliffe, Matlock, Bath  
 1868 King, Charles M., Antermomy House, Milton of Campsie  
 1864 King, David, Dunedin, New Zealand  
 1873 King, Duncan, Kildean, Stirling  
 1857 King, James, of Levernholm, 12 Claremont Terrace, Glasgow  
 1872 King, James, West Mills, Colinton  
 1850 King, Jas. F., 5 Richmond Street, Glasgow  
 1871 King, J. Falconar, Analytical Chemist, 18 Brown Square, Edinburgh  
 1869 King, Robert, Levernholm, Hurler  
 1873 King, William, jun., Earne, Doune  
 1839 King, William, Manufacturer, Glasgow  
 1868 King, Lieut.-Colonel Wm. Ross, of Tertowie, Kinellar, Aberdeen  
 1859 Kininmonth, Peter, Milton, Leuchars  
 1841 Kinloch, Alexander John, of Park, Aberdeen  
 1859 KINLOCH, Sir Alexander, of Gilmerton, Bart., Drem  
 1825 KINLOCH, Sir George, of Kinloch, Bart., 32 Drummond Place, Edinburgh  
 1877 Kinloch, John George Smyth, yr. of Kinloch, 32 Drummond Place, Edinburgh  
 1829 Kinloch, [Col. John Grant, of Kilrie, Logie, Kirriemuir  
 1862 KINNAIRD, Right Hon. Lord (Rossie Priory, Incheure), 1 Pall Mall East, London  
 1878 Kinnear, Arthur W., Stonehaven  
 1876 Kinnear, C. G. H., of Drum, 12 Grosvenor Crescent, Edinburgh  
 1853 KINNOUL, Right Hon. the Earl of, Dupplin Castle, Perth  
 1873 Kinross, Andrew, Hungryhill, Dunblane  
 1876 Kinross, James, Coldstream, Laurencekirk  
 1864 Kinross, J., Gannochan, Braco, Perthshire

**Admitted**

- 1871 Kinross, Thomas, Loig, Braco, Perthshire  
 1850† KINTORE, Right Hon. the Earl of, Keith Hall, Inverurie  
 1875 Kippen, Durham, of Busby, Glasgow  
 1848 Kirk, John, W.S., 12 Claremont Crescent, Edinburgh  
 1861 Kirk, James, Kaimknow, Muckhart  
 1874 Kirkland, Major-General John Agmondisham Vesey, of Wester Fordel, Milnathort  
 1875 Kirkness, John, Quoyosty, Rousay, Orkney  
 1860 Kirkpatrick, A., of Allanshaw, Hamilton  
 1875 Kirkpatrick, David, Linns, Torthorwald  
 1876 Kirkpatrick, James, Redhills, Torthorwald  
 1879 Kirkpatrick, James, Auctioneer, Annan  
 1860 Kirkpatrick, Samuel, West Roucan, Dumfries  
 1866 Kirkwood, Alex., Medalist to the Society, 9 St James Square, Edinburgh  
 1871 Kirkwood, Allan, Killermont, Maryhill, Glasgow  
 1854 Kirkwood, Hugh, Killermont, Maryhill, Glasgow  
 1878 Kirwan, Lionel Maitland, Bellrig, Keltoun Hill, Castle-Douglas  
 1867 Knight, Wm. Gray, of Jordanstone, Meigle  
 1858 Knowles, Thomas, Flesher, Aberdeen  
 1871 Knox, George, Nether Malletsheugh, Mearns  
 1874 Knox, Robert, Woodside, Cambus, Alloa  
 1869 Kynoch, George, jun., Isla Bank Mills, Keith  
 1872 Kynoch, Patrick, M.D., Greenlaw, Berwickshire  
 1878 Laidlaw, Robert, Rodono, Selkirk  
 1863 Laidlay, J. W., of Seacliffe, North Berwick  
 1877 Laing, Alexander, S.S.C., Glenord, Spylaw Road, Edinburgh  
 1863 Laing, George Wark, Coldstream  
 1856 Laing, John, Newburgh, Fife  
 1855 Laing, Thomas, 17 Palmerston Road, Edinburgh  
 1874 Laing, William, Skail, Thurso  
 1858 Laird, Geo. W., of Denfield, Arbroath  
 1871 Lamont, Charles, of East Bank, Kinross  
 1850 Lamont, James, of Knockdow, Greenock  
 1866 Lamont, Jn., 12 Henderson Row, Edinburgh  
 1854 L'Amy, John Ramsay, of Dunkenny, 46 Onslow Gardens, London, S.W.

## Admitted

- 1857 Landale, James, Woodmill, Auchtermuchty  
 1877 Landale, James, junior, Woodmill, Auchtermuchty  
 1878 Landale, James, Cockburnhill, Balerno  
 1874 Landale, John, of Woodbank, Banker, Dunfermline  
 1855 Landale, Thomas, 4 Mayfield Terrace, Edinburgh  
 1867 Lang, Alex., Borthrickfield, Bridge of Weir  
 1875 Lang, Alex., Garneyland, Paisley  
 1849 Lang, Hugh M., of Broadmeadows, Selkirk  
 1864 Lang, John, Bield, Gargunnoch  
 1871 Lang, Robert J., Broadmeadows, Selkirk  
 1854 Lang, William, Glengorm, Tobermory  
 1854 Langlands, James C., Bewick, Alnwick  
 1857 Latham, Patrick R., The Kames, Lanrick Castle, Stirling  
 1864 Latta, Mat. Rodger, Carmyle, Tollcross, Glasgow  
 1873 Latta, William, Darmalloch, Cumnock  
 1868 Lauder, Alex., Goshen, Musselburgh  
 1859 Lauder, Dewar, St Nicholas, St Andrews  
 1873 Lauder, William, Locherlour, Crieff  
 1877 Laurence, P., 57 Hanover Street, Edinburgh  
 1872 Laurie, John W., Mitchelston, Stow  
 1848 Laurie, William Kennedy, of Woodhall, Castle-Douglas  
 1868 Law, James, East Mains, Broxburn  
 1876 Law, John, New Keig, Whitehouse, Aberdeen  
 1868 Lawes, J. B., Rothamstead, St Albans  
 1874 Lawrence, James, Forres Mills, Forres  
 1876 Lawrence, W. F., Gowanhill, Cortes, Lonmay  
 1872 Lawrie, Alex., Hardens, Dunse  
 1878 Lawrie, Jas. D., of Monkkrigg, Haddington  
 1873 Lawrie, John, Kirklandhill, Leven  
 1872 Lawrie, Thos., Esperston, Gorebridge  
 1872 Lawrie, Thomas, Seed Merchant, Newton, St Boswells  
 1875 Lawrie, Wm., Architect, Inverness  
 1876 Laws, Robert Seppings, Tenby, Pembrokeshire  
 1853 Lawson, Alex., of Burnturk, Kettle  
 1848 Lawson, Alexander, Merchant, Dundee  
 1854 Lawson, Alexander, Old Mills, Elgin  
 1876 Lawson, A. B., Clynelish, Brora  
 1846 Lawson, Chas., 84 George Square, Edinburgh  
 1871 Lawson, Charles, Deekank, Cults, Aberdeen  
 1868 Lawson, C., Ordhead, Olney, Aberdeen

## Admitted

- 1868 Lawson, Geo. Stoddart, Brighton  
 1859 Lawson, Henry Graham, Shoreham Lodge, Shoreham, Sussex  
 1872 Lawson, James, Banker, Huntly  
 1876 Lawson, James, Westerton, Huntly  
 1867 Lawson, Thomas, of Carriston, Markinch  
 1853 Lawson, Wm., Lessendrum, Huntly  
 1858 Learmonth, Alexander, North Bank, Bo'ness  
 1868 Learmonth, Lieut.-Col. Alex., of Dean, M.P., 73 Eaton Place, London  
 1878 Learmonth, Donald H., Housebay, Stronsay  
 1874 Learmonth, Jas., Flesher, Linlithgow  
 1869 Learmonth, Thomas Livingstone, of Park Hall, Polmont  
 1876 Ledingham, Alexander, Drumblair, Forgue, Huntly  
 1878 Lee, Alex. Henderson, Blairhoyle, Port of Monteith  
 1863 Lee, John, Dollar Bank, Dollar  
 1877 Lee, Robert, Sheriff of Perthshire, 26 Charlotte Square, Edinburgh  
 1855 Lees, John, Marvingston, Haddington  
 1863 Lees, Richard, Drinkstone, Hawick  
 1878 Leggett, Alex., Killyleoch, Dunscore, Dumfries  
 1864 Leishman, James, of Broomrig, Dollar  
 1864 Leishman, T., Park Crescent, Stirling  
 1858 Leitch, Arch. K., Inchstally, Forres  
 1877 Leitch, Simon, Factor, Tankerness Hall, Kirkwall  
 1841 Leith, Alex., of Freefield, Glenkindie, Inverkindie  
 1869 Leith, Major Thomas, Westhall, Oyne  
 1875 Leithhead, James, Turniedykes, Ford, Dalkeith  
 1857 Lennie, John, Long Newton, Gifford  
 1878 Lennox, The Hon. C. S. B. Hanbury-Kincaid, Lennox Castle, Lennoxtown  
 1878 Lennox, David, Merchant, Dumfries  
 1873 Lennox, James, Doune of Glendouglas, Luss  
 1865 Leny, W. Macalpine, of Dalawinton, Dumfries  
 1876 Leslie, A. F., Braco, Keith  
 1840 Leslie, G. A. Young, of Kininvie, Lesmurdie House, Elgin  
 1862 Leslie, Hon. George, Waldegrave, Leslie House, Leslie  
 1857 Leslie, James, Thorn, Blaingowrie  
 1873 Leslie, Robert C., of Butterglenn, Dunkeld  
 1848 Leslie, Wm., of Warthill, Piteaple  
 1868 Leslie, James, Boghall, Linlithgow  
 1864 Lidderdale, Wm. H., Writer, Castle-Douglas  
 1858 Ligerwood, John, Sheriff-Clark, County Buildings, Aberdeen

Admitted

- 1878 Lightbody, William, Auctioneer, Dalbeattie  
1875 Lightfoot, Henry Lee Blanc, Ardgowan, Greenock  
1877 Lindsey, William Francis, Balmungo, St Andrews  
1878 Lindsay, Hugh, Meadowflat, Thackerston  
1878 Lindsay, James, Holehouse, Penpont  
1873 Lindsay, Jas., Whitecastles, Lockerbie  
1857 Lindsay, James, New Zealand  
1865 Lindsay, John, Thornhill, Stewarton  
1878 Lindsay, John V. Whitehope, Yarrow  
1862 Lindsay, Robert, Lilliehill Fireclay Works, Dunfermline  
1857 Lindsay, Thomas, Flemington, Lamanchara  
1878 Lindsay, Thomas, Townend, Craigie, Kilmarnock  
1869 Lindsay, Thos. S., 10 Chalmers Crescent, Edinburgh  
1854 Lindsay, William, 7 Hermitage Hill, Leith  
1875 Linn, William, Chevington Woodside, Acklington  
1873 Linton, Simon, Glenrath, Peebles  
1878 Linton, William Thomson, Mount Benger, Yarrow  
1863 Lithgow, E., Bedshiel, Greenlaw, Dunse  
1869 Little, James, Fauld, Longtown  
1878 Little, James Church, Caulfield, Langholm  
1859 Little, John, Meikleholmside, Moffat  
1870 Little, Wm., Burnfoot, Langholm  
1878 Little, William, High Borgue, Twynholm, Castle-Douglas  
1876 Littlejohn, William, Whitemyers, Old Skene Road, Aberdeen  
1879 Livingston, John, Brae of Cluny, Ballinluig  
1863 Livingston, Thos. S. Fenton, of West Quarter, Polmont  
1875 Lloyd, Thomas, of Minard Castle, Inveraray  
1878 Lockhart, James, Airies, Stranraer  
1866 Lockhart, Robert, jun., 10 Polwarth Terrace, Edinburgh  
1872 LOCKHART, Sir Simon M., of Lee and Carnwarth, Bart., Lanark  
1870 Lockhart, Captain W. Elliot, of Borthwickbrae, Hawick  
1860 Lockie, Wm., West Morriston, Earliston  
1831 Logan, Alexander, London  
1878 Logan, David, Wragmire House, Carlisle  
1876 Logan, John Walker (Logan & Elder), Berwick-on-Tweed  
1872 Loney, Peter, Marchmont, Dunse  
1877 Long, William, 63 South Clerk Street, Edinburgh

Admitted

- 1852 Longmore, Andrew, Rettie, Banff  
1858 Longmore, William, Banker, Keith  
1865 Lorimer, J., Ashrossan, Tigh-na-bruaich  
1843 Lorimer, T. W., Mountrule, Douglas, Isle of Man  
1860 Lorimer, William, Rigg, Samquhar  
1869+LORNE, Most Noble the Marquis of, K.T., Canada  
1869+LOTHIAN, Most Noble the Marquis of, K.T., Newbattle Abbey, Dalkeith—*President of the Society.*  
1874 Lothian, Maurice John, Woodcot Park, Blackshields  
1853+LOVAT, Right Hon. Lord, Beaufort Castle, Beaulieu  
1875 Love, Alex., Margaret's Mill, Kilmalcolm  
1874 Love, James, late 1 Dellingburn Street, Greenock  
1857 Lovie, Alex., Nether Boydnie, Fraserburgh  
1843 Low, James, Mainhill, Dunse  
1861 Low, General Sir John, of Clatto, K.C.B., Cupar Fife  
1878 Low, Peter, V.S., Perth  
1861 Lowe, Robert, General Agent, Perth  
1850 Lowndes, James, of Arthurlee, Barrhead  
1871 Lowson, William, of Balthayock, Perth  
1861 Lumsden, David, Pitcairfield, Perth  
1850 Lumsden, G., Leslie Lodge, Inverurie  
1857 Lumsden, George, 30 Drumshough Gardens, Edinburgh  
1877 LUMSDEN, General Sir Harry B., Belhelvie Lodge, Aberdeen  
1869 Lumsden, Henry, of Pitcaple, Pitcaple  
1877 Lumsden, Hugh Gordon, of Auchindoir, Aberdeen  
1844 LUMSDEN, Sir James, of Arden, 20 Queen Street, Glasgow  
1875 Lumsden, James, yr. of Arden, 20 Queen Street, Glasgow  
1876 Lumsden, William Harry, of Balmedie, Belhelvie  
1870 Lusk, And., Howwell, Kirkcudbright  
1877 Lusk, Peter, Craigcassie, Stranraer  
1861 Lyal, Robert, Bennie, Braeco  
1872 Lyal, William, Fogorig, Dunse  
1850 Lyall, Chas., Old Montrose, Montrose  
1854 Lyall, David, of Gallery, Montrose  
1850 Lyall, Robert, Dollar  
1861 Lyell, John, Banker, Newburgh  
1859 Lyon, Jas., Burnhaugh, Stonehaven  
1867 Lyon, G. F., of Kirkmichael, Captain R.N., Dumfries  
1870 Lyon, Thomas A., Whitcroft, Lockerbie  
1871 Lyon, William, 5 Princeps Street, Aberdeen

## Admitted

- 1870 M'Adam, Jas. Nicol, High Trees, Marlborough, Wilts  
 1857 Macadam, John, Blairo'er, Drymen  
 1859 Macadam, Dr Stevenson, F.R.S.E., Surgeons' Hall, Edinburgh  
 1840 Macalister, A., of Loup and Torrisdale  
 1842 Macalister, Keith, of Glenbarr, Tarbert  
 1855 M'Alistair, Robert, Mid Ascog, Rothesay  
 1872 Macallum, Donald, Balligowan, Oban  
 1873 M'Alpine, James, Tile Manufacturer, Springfield, Stirling  
 1854 Macandrew, D. M., Kilrock, Bridge of Allan  
 1873 Macandrew, Henry C., Sheriff Clerk, The Castle, Inverness  
 1862 Macarthur, John, of Barbreck, Banker, Inveraray  
 1840 Macarthur, Major Alexander  
 1842 Macarthur, Duncan, New Zealand  
 1840 Macaskill, Donald, of Rhudunan, New Zealand  
 1873 McAuslan, James, Kirkmichael, Helensburgh  
 1853 M'Auslan, J., late Kilbridebeg, Cairndow  
 1865 M'Bean, D., Auchterblair, Carr Bridge  
 1871 McBean, John, Factor's Office, Grantown  
 1870 Macbean, Colonel William, of Tomatin, Inverness  
 1871 McBeath, James, Brims, Thurso  
 1863 Macbraire, James, of Broadmeadows, Berwick  
 1878 M'Caig, Alex., Kilhilt, Stranraer  
 1878 M'Caig, John Borland, Stranraer  
 1878 M'Caig, Peter, Mye, Stranraer  
 1870 M'Call, George, Burance, Courance, Lockerbie  
 1870 M'Call, James, Caitloch, Moniaive  
 1863 M'Call, Professor James, Veterinary College, Glasgow  
 1846 M'Call, Henry, of Daldowie, Glasgow  
 1874 McCallum, Alex. Inglis, Chemist and V.S., 5 Grassmarket, Edinburgh  
 1872 McCallum, Dun., Glenmachrie, Oban  
 1842 M'Callum, George Kellie, of Braco, Castle Braco, Perthshire  
 1861 M'Callum, John, Bank Place, Crieff  
 1875 McCamon, John, Kirronrae, Kirkcolum  
 1864 McCandlish, Jn. M'Gregor, W.S., 4 Doune Terrace, Edinburgh  
 1871 McCash, John, Grain Merchant, Perth  
 1873 McCaull, Peter, Dykehead, Dunblane  
 1851 M'Caw, Alexander, New Zealand  
 1857 M'Chlery, Henry, London  
 1851 M'Clean, Alex. H., Auchneel, Stranraer  
 1878 M'Clew, David Andrew, Dinvin, Portpatrick  
 1870 M'Clew, John, Dinvin, Portpatrick  
 1878 M'Clure, William, Banker, Lockerbie

## Admitted

- 1870 M'Clymont, James, Borgue House, Kirkcudbright  
 1840 M'Combie, J. Boyn, Advocate, Aberdeen  
 1858 M'Combie, Peter, Upper Farmton, Whitehouse, Aberdeen  
 1858 M'Combie, Robt., Brawliemuir, Drumlithie  
 1840 M'Combie, William, of Easter Skene, Skene, Aberdeen  
 1847 M'Combie, William, of Tillyfour, Aberdeen  
 1878 M'Conchie, Andrew, Mains of Penninghame, Newton-Stewart  
 1878 M'Conchie, John, Carsewilloch, Creetown  
 1857 M'Connachy, Archibald, Machremore, Campbeltown  
 1858 M'Connach, Chas., Cairnballoch, Alford, Aberdeen  
 1868 M'Connell, Frederic, Cleughhead, Annan  
 1878 M'Connell, Thomas M., V.S., Wigtown  
 1874 M'Connell, William, of Knockdolian, Girvan  
 1875 M'Connell, John A., Chapelheron, Whithorn  
 1870 M'Connell, James, Glasnick, Newton-Stewart  
 1842 M'Connell, John, Richmond, Surrey  
 1878 M'Connell, Primrose, Castle Mains, New Cumnock—*Free Life Member*  
 1878 M'Cormick, John, Lochenkitt, Corsock, Dalbeattie  
 1877 M'Cosh, Peter, Cairngawn, Drumore, Kirkmaiden  
 1856 M'Cowan, Robert, 12 Lynedoch Place, Glasgow  
 1877 M'Cracken, Alex. Earl, Craigmelpine, Glasserton, Whithorn  
 1878 M'Cracken, William, Blackhall, Kirkwhelpington, Newcastle-on-Tyne—*Free Life Member*  
 1859 M'Culloch, Alexander, of Glen, Gatehouse of Fleet  
 1870 M'Culloch, David, Bank-Agent, North Berwick  
 1870 M'Culloch, John, Denbie Mains, Lockerbie  
 1878 M'Culloch, Peter, jun., Whitefield, Glenluce  
 1869 M'Culloch, R. C., Kirkland, of Longcastle, Kirkinner  
 1878 M'Culloch, Sannuel, Balgowan, Stranraer  
 1849 M'Culloch, Walter, of Ardwell, Gatehouse of Fleet  
 1871 M'Culloch, William, Crieff  
 1858 M'Diarmid, Charles A., Rockwood, Killin  
 1858 M'Diarmid, D. A., Killimore, Auchnacraig, Mull

**Admitted**

- 1875 M'Diarmid, Duncan, Camuserricht, Rannoch  
 1888 M'Donald, Dr Alex., Prince Edward's Island  
 1841 Macdonald, Alexander, Wine Merchant, Inverness  
 1854 Macdonald, A., of Edenwood, Balranald, Lochmaddy  
 1874 Macdonald, Alex., Nether Largie, Kilmartin  
 1874 MacDonald, Alex. Ronald, Ord, Isle Ornsay, Broadford, Skye  
 1855 Macdonald, A. S., Cyderhall, Dornoch  
 1875 Macdonald, C. Moreton, of Largie, Campbeltown  
 1860 Macdonald, D., Athole Arms Hotel, Blair Athole  
 1868 M'Donald, Donald, Culcraggie, Alness  
 1872 Macdonald, Donald, Tormore, Broadford, Skye  
 1879 Macdonald, Bailie Donald, Inverness  
 1869 Macdonald, D. J. K., of Sanda, 7 Craven Street, London  
 1865 Macdonald, D. P., Invernevis, Fort-William  
 1871 M'Donald, J., Comrie Farm, Aberfeldy  
 1875 M'Donald, John, Newton, Lochmaddy  
 1873 Macdonald, John, Porterfield, Renfrew  
 1873 M'Donald, Neil M'Leod, of Dunach, Oban  
 1861 Macdonald, Peter, The Douglas Hotel, Brodick, Ardsrossan  
 1868 Macdonald, R., Cluny Castle, Aberdeen  
 1878 Macdonald, Robert, Commission Agent, Penicuik  
 1874 MacDonald, R. A., Ullinish, Portree  
 1826 Macdonald - Robertson, William, of Kinlochmoidart, Fort-William  
 1874 Macdonald-Robertson, W. D. A., yr. of Kinlochmoidart, Fort-William  
 1839 Macdonald, Roderick C., of Castle Teirim, Prince Edward's Island  
 1861 Macdonald, William, of Balnakilly, Blairgowrie  
 1874 MacDonald, William, Editor, *North British Agriculturist*, Edinburgh  
 1871 M'Donald, William, Woodlands, Perth  
 1860 Macdonald, William S., Craigielaw, Longniddry  
 1865 Macdonald, William, Banker, Elgin  
 1844 Macdonald, Lieut.-Col. Wm. Macdonald, of St Martin's, Perth  
 1846 Macdonell, Eneas Ranald, of Morar, Fort-William  
 1865 M'Douall, Jas., of Logan, Stranraer  
 1847 M'Dougal, Alexander, Granton Mains, Edinburgh  
 1868 M'Dougal, George, Blythe, Lauder  
 1875 M'Dougal, Thos., Eskvale, Penicuik

**Admitted**

- 1872 M'Dougall, Col. Chas. A., of Dunollie, Oban  
 1871 M'Dougall, John, Goodlyburn, Perth  
 1860 M'Dougall, Archibald, Ardtalanaig, Kenmore  
 1838 Macdougall, Captain James Patrick  
 1871 M'Dougall, John W., yr. of Orchill, Blackford  
 1873 M'Dougall, William, Bochartie, Callander  
 1870 M'Dowall, Andrew, Auchtralure, Stranraer  
 1870 M'Dowall, Andrew, Malcolmstone, Hermiston  
 1845 Macdowall, Henry, of Garthland, Lochwinnoch  
 1875 Macdowall, Henry, yr. of Garthland, Lochwinnoch  
 1877 M'Dowall, James, 49 Jamaica Street, Glasgow  
 1878 M'Dowall, T. N., Auchtralure, Stranraer  
 1878 M'Dowall, Robert, Auchengallie, Port-William  
 1874 Macduff, Alex., of Bonhard, Perth  
 1879 MacDuff, Donald, Tomnagrew, Dunkeld  
 1859 MacDuff, James, Newmill, Stanley  
 1876 M'Duff, Wm., Tomnagairn, Dunkeld  
 1834 Macewan, J., of Tar of Ruskie, Callander  
 1846 M'Ewan, Alexander, late of Sunderland  
 1850 M'Ewan, John, Merchant, Glasgow  
 1864 M'Ewan, John, Redside Farm, North Berwick  
 1865 M'Ewan, John, Merchant, Stirling  
 1865 MacEwan, John C. Inverness  
 1873 M'Ewan, Wm., Cambushinnie, Dunblane  
 1877 M'Fadyean, Prof. John, Vet. College, Clyde Street, Edinburgh  
 1878 M'Farlan, George, Forester, Closeburn, Thornhill  
 1851 M'Farlan, John, Faslane, Garelochhead  
 1874 Macfarlane, Alex. (Mealldarroch, Tarbert, Lochfine), 27 Palmerston Buildings, Greenock  
 1857 Macfarlane, Alexander, Pollanilline, Campbeltown  
 1873 M'Farlane, Colin, Strons, Glenfruin, Garelochhead  
 1879 Macfarlane, Dr David, Drymen  
 1857 Macfarlane, Donald, Auchray, Aberfoyle  
 1860 Macfarlane, Donald, Balmuildy, Bishop-  
 1873 M'Farlane, Duncan, Greenfield, Garelochhead  
 1857 Macfarlane, Duncan, Torr, Helensburgh



## Admitted

- 1869 M'Farlane, James, of Easter Radernie, Dunfermline  
 1857 Macfarlane, John, late of Ballencleruch, Lennoxtown  
 1872 Macfarlane, John, Barnacarry, Kilmiver, Oban  
 1873 Macfarlane, Lewis, Lettermay, Lochgoilhead  
 1868 Macfarlane, Malcolm, Hutchestown Farm, Dunblane  
 1879 M'Farlane, Richard, 1 Great Western Terrace, Glasgow  
 1878 Macfarlane, Samuel, Oswald Hill, Partick  
 1879 Macfarlane, Walter, 22 Park Circus, Glasgow  
 1879 M'Farlane, Wm., Agricultural Implement Maker, Welltown, Meigle  
 1862 Macfie, C., of Gogarburn, Corstorphine  
 1865 Macfie, David J., of Borthwick Hall, Heriot  
 1864 Macfie, Robert Andrew, of Dreghorn, Colinton  
 1860 Macfie, Samuel, 29 Whitefield Road, Everton, Liverpool  
 1869 Macfie, Wm., of Clermiston, Corstorphine  
 1865 M'Gavin, Robert, of Ballumbie, Dundee  
 1863 M'Gibbon, David, Limecraig House, Campbeltown  
 1863 M'Gibbon, David, Architect, 89 George Street, Edinburgh  
 1850 M'Gill, James, Torrorie, Dumfries  
 1860 M'Gill, James, Banker, Dumfries  
 1850 M'Gill, John, Barsalloch, Wigtown  
 1878 M'Gill, Wm., Boreland, Newton-Stewart  
 1867 M'Gillewie, Donald, Ballnadrum, Pitlochry  
 1876 MacGillivray, Dr D. W., Eoligary, Barra, Lochmaddy  
 1874 M'Gillivray, John, Ballachroan, Kingussie  
 1876 MacGillivray, Wm., Eoligary, Barra, Lochmaddy  
 1876 M'Goune, John G., Mains, Alexandria, N.B.  
 1877 M'Gowan, Robert, Blegbie, Upper Keith  
 1870 M'Gowan, William, Blegbie, Upper Keith  
 1837 Macgregor, Alexander, London  
 1877 M'Gregor, Arch., Glenlyon House, Aberfeldy  
 1872 M'Gregor, Donald, Ballinluig  
 1870 M'Gregor, Donald, Royal Hotel, Edinburgh  
 1857 Macgregor, Donald R., Merchant, Leith  
 1874 Macgregor, Rev. J., Knockbain/Manse, Munlochy  
 1874 M'Gregor, James G., Mulderg, Fearn

## Admitted

- 1861 M'Gregor, John, Ladywell, Dunkeld  
 1878 M'Gregor, John B., Currach Farm, Crieff  
 1874 M'Gregor, P. Comyn, of Brediland, Lonend House, Paisley  
 1868 M'Gregor, R., St Ann's Brewery, Edinburgh  
 1878 M'Gregor, Robert, Bellridding, Dumfries  
 1874 M'Gregor, Roderick, of Brae Rannoch, Kincaig, Kingussie  
 1865 MacGregor, Thomas, Kingsmills, Inverness  
 1870 M'Haffie, Wm. J., of Torhousemuir, Wigtown  
 1872 M'Ilraith, James, 135 Hope Street, Glasgow  
 1871 M'Ilwraith, Thomas, Barwhanny, Kirkinner  
 1878 M'Ilwrick, Alex., Bush-on-Esk, Longtown  
 1872 M'Indoe, James, Glenmolachan, Luss  
 1864 MacIndoe, Robert, Merkins, Alexandria  
 1827 M'Inroy, Lieut.-Colonel William, of The Burn, Brechin  
 1864 M'Intosh, David, of Havering Park, Romford, Essex  
 1852 M'Intosh, Lieut.-Gen., of Campsie, K.H.  
 1879 M'Intosh, George, S.S.C., 87 George Street, Edinburgh  
 1878 M'Intosh, James, Boatlands, Coupar-Angus  
 1878 M'Intosh, Dr, Murthly, Perthshire  
 1865 M'Innes, Duncan, of Cowden, Comrie, Crieff  
 1875 M'Intyre, Daniel, Dunallan, Rothesay  
 1861 MacIntyre, Donald, Tighnabhair, Comrie  
 1875 MacIntyre, Peter Brown, Mains of Findon, Dingwall  
 1875 M'Intyre, Robert, St Martins, Invergordon  
 1844 MacIntyre, J., Lochvoil Cottage, Oban  
 1857 M'Isaac, John, Dunglass, Campbeltown  
 1850 M'Iver, Evander, Scourie House, Lairg  
 1854 Mack, Wm., of Berrybank, Reston  
 1877 Mackay, Alex. Forbes, of Blackcastle, Carskey House, Campbeltown  
 1878 Mackay, Arch., Kilcatten Mill, Rothesay  
 1878 Mackay, David, Hurdledale, Cummertrees  
 1852 Mackay, Donald, Traill Street, Thurso  
 1872 Mackay, George G., Grangemouth  
 1877 Mackay, Henry, Sharnwick Marina, Nigg, Ross-shire  
 1878 Mackay, Hugh, Texas, United States of America

**Admitted**

- 1870 Mackay, H. M. S., Banker, Elgin  
 1875 Mackay, John, Home Farm, Portree  
 1872 Mackay, John S., Banker, Grange-  
 mouth  
 1870 Mackay, R. J., Burgie, Forres  
 1874 Mackay, Wm., Melness, Princes Street,  
 Thurso  
 1877 M'Kay, Wm., Brucefield, Portma-  
 homack, Ross-shire  
 1875 Mackay, Thomas, Easter Moy, Arcan,  
 Beaully  
 1878 M'Kean, John, Grain Merchant, 65  
 Port Street, Stirling  
 1857 M'Kean, Robert, Lumloch, Bishop-  
 briggs  
 1855 M'Kechnie, Neil, Dunoon  
 1864 Mackechnie, James, Dalmore House,  
 Oban  
 1869 Mackechnie, James, jun., Dalmore  
 House, Oban  
 1878 M'Kellar, John, Killenan, Bowmore,  
 Islay  
 1878 Mackellar, Peter, Crossaig, Kintyre,  
 Tarbert  
 1841 MACKENZIE, Right Hon. Lady Anne,  
 of Scatwell  
 1853 Mackenzie, Alexander, Banker, Elgin  
 1862 MACKENZIE, Sir Alexander M., of Del-  
 vine, Bart., Dunkeld  
 1846 Mackenzie, A., of Scatwell, 19 Char-  
 lotte Square, Edinburgh  
 1869 Mackenzie, Alexander Kincaid, of  
 Ravelrig, Currie  
 1875 Mackenzie, Alex., Merchant, 22 Church  
 Street, Inverness  
 1878 Mackenzie, Alex., Tomich, Beaully  
 1872 Mackenzie, Andrew, Dalmore Distil-  
 lery, Alness  
 1872 Mackenzie, Colin, W.S., 28 Castle  
 Street, Edinburgh  
 1869 Mackenzie, C. J., of Portmore,  
 Eddlestone  
 1844 Mackenzie, Daniel, jun., Merchant,  
 Glasgow  
 1846 MACKENZIE, Sir Evan, of Kilcoy, Bart.  
 1870 Mackenzie, James, Camden Quay,  
 Cork  
 1865 Mackenzie, James Fowler, of Allan-  
 grange, Munlochy  
 1868 Mackenzie, Major James Dixon, of  
 Findon, Mountgerald, Dingwall  
 1838 MACKENZIE, Sir James J. R., of Scat-  
 well, Bart.  
 1871 Mackenzie, James T., of Kintail and  
 Gleumuck, Ballater  
 1848 Mackenzie, John, New Club, Edin-  
 burgh  
 1865 Mackenzie, John, Duchlaga, Cove,  
 Greenoak  
 1872 Mackenzie, John, of Knipooh, Oban  
 1853 Mackenzie, Jn. Munro, of Morinish,  
 Garrison Tower, Wishaw

**Admitted**

- 1879 Mackenzie, John, W.S., 16 Royal  
 Circus, Edinburgh  
 1848 Mackenzie, John Ord, of Dolphinton,  
 W.S., 9 Hill Street, Edinburgh  
 1821 Mackenzie, John Whitefoord, W.S.,  
 16 Royal Circus, Edinburgh  
 1854 MACKENZIE, Sir K. S., of Gairloch,  
 Bart., Conan House, Dingwall  
 1846 Mackenzie, K. W. Stewart, of Seaforth,  
 Brahan Castle, Dingwall  
 1848 Mackenzie, Kenneth, C.A., 29 North-  
 umberland Street, Edinburgh—  
*Auditor of Accounts to the Society.*  
 1879 Mackenzie, Murdo, Banker, Tain  
 1874 Mackenzie, Nigel Banks, British Linen  
 Bank, Fort-William  
 1838 Mackenzie, Robert D., of Caldaran,  
 Alexandria  
 1865 Mackenzie, Roderick G., of Flowerburn,  
 Fortrose  
 1846 Mackenzie, Thomas, of Ord, Beaully  
 1862 Mackenzie, William, Achindunie,  
 Alness  
 1878 M'Kenzie, William, Inverquharly,  
 Kirriemuir  
 1857 M'Kerral, A., Brunerican, Campbell-  
 town  
 1874 M'Kerrow, And., Auchenskeoch, South-  
 wick, Dumfries  
 1876 M'Kerrow, M. S., Boreland of South-  
 wick, Dumfries  
 1878 M'Kersie, James, Glenbuck, Muir-  
 kirk  
 1865 Mackessack, J. Earnside, Forres  
 1865 M'Kessack, Charles, Culblair, Fort-  
 George Station  
 1857 M'Kessack, John, Balnaferry, Forres  
 1874 Mackessack, John, Kinloss, Forres  
 1864 M'Kessack, Robert, of Ardyge and  
 Roseisle, Forres  
 1874 Mackie, Alexr., Bandeath, Stirling  
 1875 M'Kie, Andrew, Corrahill, Kirkcud-  
 bright  
 1860 Mackie, George, of Dunjarg, Castle-  
 Douglas  
 1873 Mackie, James H. J., Invermay, Bridge  
 of Earn  
 1869 Mackie, James, Lewes, Fyvie  
 1864 Mackie, James Logan, Ravelston, Great  
 Western Road, Glasgow  
 1860 Mackie, John, Sarkshields, Eccle-  
 fechan  
 1878 M'Kie, John, of Bargalie, Castle-  
 Douglas  
 1878 M'Kie, John G., of Auchencairn, Castle-  
 Douglas  
 1857 Mackie, Robert, Loudoun Cottage,  
 Galston  
 1871 Mackie, William, Petty, Fyvie  
 1872 Mackinlay, Daniel, 11 James Street,  
 Portobello  
 1818 Mackinlay, John, Whitehaven

## Admitted

- 1869 M'Kinlay, John, Hardhill, Bathgate  
 1878 Mackinlay, William, Ardoch, Cardross  
 1869 M'Kinnel, J. B. A., Dumfries Iron Works, Dumfries  
 1878 M'Kinnel, William, Butterhole, Buittle, Dalbeattie  
 1869 Mackinnon, Lachlan, jun., Advocate, Aberdeen  
 1876 Mackinnon, Wm., of Loup, Clachan, Kintyre  
 1865 Mackintosh, C. Fraser, of Drummond, M.P., Inverness  
 1839 Macintosh, Æneas, of Daviot, Inverness  
 1846 Mackintosh, Æneas, of Balnespick, Inverness  
 1844 Mackintosh, Æneas W., of Raigmore, Inverness  
 1844 Mackintosh, A., of Holme, Inverness  
 1868 Mackintosh, C. H. (of Dalmunzie, Perthshire), M.D., Morden Hall, Torquay  
 1846 Mackintosh, George Gordon, Richmond House, Twickenham, Middlesex  
 1869 Mackintosh, James, of Lamancha, 2 Abbotsford Park, Edinburgh  
 1877 Mackintosh, John, South Kinrara, Aviemore  
 1854 Mackintosh, R. T., Seedsman, Edinburgh  
 1874 M'Kirdy, Major-General D. Elliot (of Letham, Lanarkshire), New Club, Edinburgh  
 1850 M'Kirdie, John Gregory, of Birkwood, Lesmahagow  
 1860 M'Knight, Alexander, London  
 1856 Maciachlan, Alexander, Carleith, Duntocher  
 1873 M'Lachlan, Archd., 32 Queen Street, Stirling  
 1875 M'Lachlan, Colin, Drums, Greenock  
 1873 M'Lachlan, Colin, Woodend, Helensburgh  
 1874 M'Lachlan, D., Lochgilphead  
 1872 Maciachan, James, Doune Lodge, Burn of Cambus, Stirling  
 1862 Maciachlan, W. A., of Auchentroig, Balfour  
 1876 Maciae, Alex. Crum, of Cathkin, Carmunnock  
 1853 Maclagan, D., M.D., Prof. of Medical Jurisprudence, University of Edinburgh, 28 Heriot Row  
 1869 Maclagan, David, C.A., 9 Royal Circus, Edinburgh  
 1847 Maclagan, Peter, Birchwood, Birnam, Perthshire  
 1847 Maclagan, Peter, of Pumpherston, M.P., Clifton Hall, Ratho  
 1873 Maclagan, Robert Craig, M.D., 5 Coates Crescent, Edinburgh

## Admitted

- 1847 MacIaine, Hugh, Glenriadell, Tarbet, Kintyre  
 1870 MacLaine, Murdoch G., of Lochbny, Oban  
 1855 MacIlanachan, James, Van Diemen's Land  
 1859 MacLaren, D., Corrychrone, Callander  
 1853 M'Laren, Duncan, M.P., Newington House, Edinburgh  
 1873 M'Laren, James, Little Sauchie, St Ninians  
 1839 MacLaren, Dr John, Blairgowrie  
 1871 M'Laren, James, Solicitor, Crieff  
 1864 M'Laren, J., late Gogar Park, Corstorphine  
 1873 M'Laren, John, Craggish, Comrie  
 1858 M'Laren, John, Retreat House, Seona, Perth  
 1859 M'Laren, John, Brae of Monzievaird, Crieff  
 1859 M'Laren, Joseph (late Greenhead of Arnot, Kinross), Australia  
 1876 M'Larin, Dougald, Dalbeattie  
 1875 M'Latchie, William, Hillside, Campbelltown  
 1877 M'Lean, Alex. T., of Ardgour, Fort William  
 1835 Maclean, Colonel Allan Thomas  
 1837 Maclean, Archibald D., London  
 1875 M'Lean, Arch. John, of Pennycross, Carsaig, Pennyghael, Oban  
 1871 M'Lean, Charles, of Glenearn, Bridge of Earn  
 1875 Maclean, Chas., Milton, South Uist, Lochmaddy  
 1838 Maclean, Colin, of Lagan, Islay  
 1873 M'Lean, Daniel, Hillwood, Ratho  
 1861 Maclean, Duncan, Bellnollow, Crieff  
 1849 Maclean, George, 6 Albert Drive, Crosshill, Queen's Park, Glasgow  
 1854 Maclean, Hector Frederick, W.S., 3 Hill Street, Edinburgh  
 1878 Maclean, Hugh, Law Agent, Stranraer  
 1878 M'Lean, James, Auctioneer, Annan  
 1860 Maclean, James, Clerk of Supply, Wigtown  
 1860 M'Lean, Lauchlan, Pitilie, Aberfeldy  
 1823 Maclean, Dr Lachlan, Helenlee, Oban  
 1846 Macleay, Alex. D., Conservative Club, London  
 1839 Macleay, Kenneth, 16 Grosvenor Street, London  
 1875 M'Leish, Dan., Bank of Scotland, Fort-William  
 1877 Macleish, G. S., Wester Drumthartery, Spittalfield, Dunkeld  
 1871 M'Lellan, David, of Marks, Kirkcud-  
 1857 MacIellan, T., North Balfarn, Kirkinner

Admitted

- 1875 MacLennan, Alexander, Leanassie, Kintail  
 1865 MacLennan, Donald, Hilton, Beanly  
 1864 MacLennan, John, Fearnraig, Strome Ferry  
 1874 Macleod, Dun. D. M'L., Coulmore, Inverness  
 1875 M'Leod, F. H., 30 Ann Street, Glasgow  
 1849 Macleod, John N., Banker, Kirkcaldy  
 1839 Macleod, Norman, of Macleod, South Kensington Museum, London  
 1854 Macleod, R. B. Aeneas, of Cadboll, Invergordon Castle, Invergordon  
 1865 Macleod, W. A., Scorrybreck, Portree  
 1875 Macleod, Captain, of Orboist, Skye  
 1874 M'Master, Allan, Glenhead House, Stranraer  
 1871 M'Master, Hugh, Blairbuie, Port-William  
 1878 M'Master, James, Currochtree, Stranraer  
 1875 M'Master, John, Culhorn Mains, Stranraer  
 1875 M'Master, William, Challoch, Dunragit  
 1870 M'Millan, John, of Glencrosh, Moniaive  
 1861 MacMillan, J. G., Dereel House, Barns Park, Ayr  
 1875 M'Min, Thos. M'C., Upper Wellwood, Muirkirk  
 1854 M'Minn, F., 1 Graham Street, Edinburgh  
 1870 M'Monies, James, 1 Jane Place, Leslie Street, Pollokshields, Glasgow  
 1872 M'Murich, James, Stuckievullich, Arrochar  
 1873 M'Murich, Peter, Burnside, Alva  
 1865 M'Nab, Alexander, of Techniury, Glenochil House, Menstrie  
 1873 M'Nab, Donald, Duchlage, Luss  
 1878 M'Nab, Jas., Loaning Bank, Menstrie  
 1872 M'Nab, John, Hotel, Arrochar  
 1873 M'Nab, John, Brecklin, Callander  
 1879 MacNab, R. W., Union Bank of Scotland, Dalbeattie  
 1865 Macnaghten, Steuart, of Inver Trosachs, Bitterne Manor House, Southampton  
 1857 M'Nair, James, Smerby, Campbeltown  
 1857 M'Nair, John, 33 Moray Place, Edinburgh  
 1876 M'Nair, Robert, Westertown, New Kilpatrick  
 1857 M'Naughton, Alex., Remony, Kenmore  
 1859 M'Naughton, Alexander, Kerrowmore, Glenlyon, Aberfeldy  
 1870 M'Naughton, Daniel, Leith  
 1878 M'Naughton, Duncan, Cashlie, Glenlyon, Aberfeldy

Admitted

- 1854 Macnaughton, J., of Smithfield, Ayr  
 1871 M'Naughton, John, Inverlochlaig, Balquhiddier  
 1879 M'Naughtan, Robert, Inverardran, Crianlarich, Stirling  
 1871 M'Naughton, Wm., Riechip, Dunkeld  
 1848 Macneal, H., of Ugadale, Campbeltown  
 1870 M'Neilie, Alexander, Redcastle, Dalbeattie  
 1846 M'NEILL, Right Hon. Sir John, G.C.B., Burnhead, Liberton  
 1860 M'Neill, John Carstairs, late of Ardlussa, Jura  
 1861 M'Neillie, W., of Castlehill, Dumfries  
 1873 M'Nicol, John, Courshelloch, Clachan, Tarbet  
 1876 M'Nicol, John, Salachael, Fasnacloich, Appin  
 1857 M'Niven, Alex., Inneshevan, Killin  
 1876 Maconchy, John Arthur, Corrinagh, Torquay—*Free Life Member*  
 1877 Maconochie, John Allan, Gattonside House, Melrose  
 1852 Maconochie, Robert Blair (of Gattonside, Melrose), W.S., 10 Hill Street, Edinburgh  
 1857 M'Phail, Alexander, America  
 1876 M'Phail, Donald (Cameron, Mull), Oban  
 1875 MacPhail, Donald, Oskamul, Aros, Mull  
 1878 MacPhedran, J. M., of Craigbet, Bridge of Weir  
 1878 Macpherson, Allan, of Blairgowrie  
 1878 Macpherson, Charles G. Brewster, of Belville, Kingussie  
 1871 MacPherson, Donald, Glen Nevis, Fort-William  
 1875 M'Pherson, Donald, Lettermore, Aros, Mull  
 1876 M'Pherson, Donald, Argyle Arms Hotel, Inveraray  
 1865 Macpherson, Duncan, Kingussie  
 1827 Macpherson, Ewen, of Cluny Macpherson, Cluny Castle, Kingussie  
 1872 Macpherson, George G., Cat Lodge, Kingussie  
 1865 Macpherson, James, Clunas, Cawdor, Nairn  
 1876 Macpherson, John, Achlochrach, Glenrinnas, Duftown  
 1856 Macpherson, John, Blantyre Farm, Glasgow  
 1857 Macpherson, J., Lord Chamberlain's Office, London  
 1860 Macpherson, J. (late Killihuntly, Kingussie), Ontario, Canada  
 1870 Macpherson, Colonel Lachlan, of Glen-truim, Newtonmore  
 1871 M'Pherson, Lauchlan, Laggan, Crieff

## Admitted

- 1857 M'Queen, J., of Boquhapple, Thornhill, Stirlingshire  
 1870 Macqueen, James, of Crofts, Dalbeattie  
 1873 MacQueen, James, Divers Wells, Alloa  
 1850 Macrae, Don., 72 Buccleuch Street, Glasgow  
 1874 Macrae, Dun. A., Monar, Beaully  
 1874 MacRae, Rod., Mains of Erchless, Beaully  
 1878 M'Raw, Donald, Balnacraig, Fortingall  
 1868 M'Robbie, Peter, Sunnyside, Aberdeen  
 1871 M'Rosty, James, Solicitor, Criaff  
 1873 Mactaggart, Charles, Banker, Campbelltown  
 1876 M'Taggart, John, Culnaightry, Castle-Douglas  
 1874 Mactavish, Alex., Implement Maker, Inverness  
 1857 M'Tavish, Duncan, America  
 1848 Mactier, Alexander Walker, late of Durris, Aberdeen  
 1878 M'Tier, John, of Ladyfield, Netherwood, Dumfries  
 1878 M'Turk, David, Rascarrel, Castle-Douglas  
 1878 M'Turk, Wm. A., Barlae, Dalry, Galiloway  
 1877 M'Vicar, Archd., Woodend, Bathgate  
 1828 Macvicar, Rev. J. G., D.D., Moffat  
 1878 M'Whinnie, Alex., Arievoiland, Port William  
 1876 M'William, Mrs. Bucharn, Huntly  
 1869 M'William, D., Cairnfield, Kirkinner  
 1876 M'William, James, Stoneytown, Boharm, Keith  
 1870 M'William, Robert, Craichmore, Stranraer  
 1839 Madden, Henry R., M.D., Australia  
 1875 Maddison, Henry, The Lindens, Darlington  
 1870 Main, George Agnew, Portland Square, Carlisle  
 1874 Main, James A. R. (A. & J. Main & Co.), Hope Street, Glasgow  
 1877 Maitland, David, of Dundrennan, Kirkcudbright  
 1871 Maitland, Henry, Stonefield House, Canaan Lane, Edinburgh  
 1858 Maitland, James, jun., Little Methlic, Methlic  
 1867 MAITLAND, Sir James Ramsay Gibson, of Clifton Hall, Bart., Craigend House, Stirling  
 1879 Maitland, Col. Keith Ramsay, H.M.I.S., 26 Castle Terrace, Edinburgh  
 1875 Maitland, Robt., Balhalgady, Inverurie  
 1858 Maitland, William, of Shannaburn, Maryculter, Aberdeen  
 1879 Makenzie, Alex. Donald (Makenzie & Moncur), Upper Grove Place, Edinburgh

## Admitted

- 1869 Malcolm, George, Factor, Lavergharry  
 1876 Malcolm, William, Carseaig, Mall  
 1840 Malcolm, W. E., of Burnfoot, Langholm  
 1878 Malcolm, William Maitland, Carseaig, Pennyghael  
 1861 Mangles, George, Givendale, Ripon, Yorkshire  
 1840 MANSEL, Sir John, Bart., Maestello, Llandilo, Carmarthenshire  
 1833+MANSFIELD, Right Hon. the Earl of, K.T., Scone Palace, Perth  
 1869 Mansfield, James L., Advocate, 10 Albany Street, Edinburgh  
 1872 MAR and KELLIE, Right Hon. the Earl of, Alloa Park, Alloa  
 1855 MARJORIBANKS, Sir Dudley Countts, of Guisachan, Bart., M.P., 3 Grafton Street, London  
 1854 MARJORIBANKS, Sir John, of Lees, Bart., Coldstream  
 1856 Marjoribanks, John, Campdown, Drem  
 1854 Marjoribanks, Wm., Warriston House, Inverleith Row, Edinburgh  
 1877 Mark, John, Craigend, Stow  
 1877 Mark, Robt., Agricultural Hall, Leven Street, Edinburgh  
 1876 Marr, John, Mill of Kingoodie, Old Meldrum  
 1864 Marr, J. A., late of Alderston, Mid-Calder  
 1855 Marr, Wm. Smith, Upper Mill, Tarves  
 1873 Marryat, George Selwyn, late 19 Hope Terrace, Edinburgh  
 1873 Marshall, James, of Duncricvie, Milnathort  
 1868 Marshall, Jas. (Marshall, Sons, & Co.), Gainsborough  
 1847 Marshall, John, Clebrig, Lairg  
 1877 Marshall, John (Alex. Jack & Sons), Maybole  
 1877 Marshall, Mark, 145 St Vincent Street, Glasgow  
 1860 Marshall, Thomas, The Howes, Annan  
 1879 Marshall, Walter, of Lochmalony, Cupar Fife  
 1872 Marshall, William Hunter, of Callander, 25 Heriot Row, Edinburgh  
 1875 Martin, Donald T., Auchendennan, Bonhill  
 1877 Martin, Edward, 11 Keir Terrace, Glasgow  
 1875 Martin, Hugh, S.S.C., 7 Hope Street, Edinburgh  
 1858 Martin, James, Newmarket, Aberdeen  
 1875 Martin, John, Ardnahoe, Rothesay  
 1874 Martin, John, Beechwood Mains, Corstorphine  
 1858 Martin, John, Parkhead Villa, Perth  
 1865 Martin, John, Docharn, Boat of Garten, Strathpey, Inverness-shire  
 1867 Martin, John M., yr. of Auchendennan, Bloomhill, Cardross.

Admitted

- 1854 **Martin**, Dr N., of Glendale, Dun-  
vegan  
1878 **Martin**, Thomas, Muirhill, Durris-  
deer  
1870 **Martin**, William, of Dardarrooh, Dun-  
score, Dumfries  
1878 **Martin**, William, Larbrax, Stranraer  
1878 **Martin**, William, Town-Clerk, Dum-  
fries  
1859 **Mason**, Robert, of Corstorphine Hill,  
Corstorphine Hill House, Edinburgh  
1874 **Masson**, John, Portaskaig, Islay  
1874 **Masson**, John, Mill of Cammie, Ban-  
chory  
1875 **Mather**, Edward, 4 Viewforth Terrace,  
Edinburgh  
1874 **Mather**, John Arres, Delnies, Nairn  
1876 **Mather**, William, Muirhead Cottage,  
Moodiesburn  
1873 **Mather**, William, Kirkhill, Newton  
Mearns  
1846 **Matheson**, Alexander, of Ardross, M.P.,  
Duncraig House, Strome Ferry  
1878 **Matheson**, Daniel, Commercial Bank,  
Lockerbie  
1871 **Matheson**, Kenneth, Dunfermline  
1853 **Mathews**, N., Whitehills, Garliestown  
1864 **Mathie**, James, Banker, Stirling  
1878 **Matthews**, Andrew Baird, British Linen  
Bank, Newton-Stewart  
1871 **Matthew**, P. M., 32 Coates Gardens,  
Edinburgh  
1877 **Maxwell**, Captain Alfred P. Constable,  
of Terregles, Dumfries  
1870 **Maxwell**, Captain Heron, yr. of Spring-  
kell, Ecclefechan  
1861 **Maxwell**, Edward Heron, of Teviot-  
bank, Hawick  
1865 **Maxwell**, Francis (of Gribton, Dum-  
fries), St Germains, Longniddry  
1873 **Maxwell**, George, of Broomholm, Lang-  
holm  
1878 **Maxwell**, George, of Glenlee, New Gal-  
loway  
1838 **MAXWELL-STUART**, Hon. Henry Con-  
stable, of Traquair, Peebles  
1877 **MAXWELL**, Sir Herbert Eustace, of Mon-  
reath, Bart., Port William  
1878 **Maxwell**, James, Screel, Castle-Douglas  
1839 **MAXWELL**, Sir John H., of Springkell,  
Bart., Ecclefechan  
1867 **Maxwell**, Maxwell Hyslop, of The  
Grove, Dumfries  
1869 **Maxwell**, General Harley, of Portrack,  
Dumfries  
1857 **Maxwell**, R., Ballachgair, Campbel-  
town  
1879 **Maxwell**, Wellwood, (of Kirkennan,  
Dalbeattie), 44 Northumberland Street,  
Edinburgh  
1839 **Maxwell**, Wellwood H., of Munches,  
Dalbeattie

Admitted

- 1878 **Maxwell**, W. J., Terregles Banks,  
Dumfries  
1841 **MAXWELL**, Sir W., of Cardoness, Bart.,  
Gatehouse  
1875 **Maxwell**, William Hall, of Dargavel,  
Bishopton  
1873 **Maxwell**, William Jardine, yr. of  
Munches, Dalbeattie  
1879 **Mead-Waldo**, E. W., Stonewall, Eden  
Bridge, Kent  
1875 **Mearns**, Rev. Duncan G., Oyne Manse,  
Aberdeenshire  
1850 **Moars**, William, 24 Buccleuch Street,  
Edinburgh  
1875 **Medley**, Spencer M., Ellandonan Villa,  
Inverness, Commander R.N.  
1875 **Meek**, John, Flesher, Whitburn  
1857 **Meiklam**, John, of Gladswood, Mel-  
rose  
1854 **Meikle**, David, late Clunie Mains,  
Kingslisse  
1876 **Meikle**, James, Lugtounridge, Beith  
1858 **Meikle**, James, Nether Mains, Kin-  
winning  
1867 **Meikle**, John, Seafeld, Bathgate  
1869 **Meikle**, Wm., East Breich, West  
Calder  
1879 **Meikle**, William, East Bonhard, Lin-  
lithgow  
1862 **Meiklejohn**, John, Foundry, Dalkeith  
1861 **Mein**, Andrew Whytock, of Hunthill,  
Jedburgh  
1863 **Mein**, Ben., Roxburgh Barns, Kelso  
1860 **Mein**, N. A., Marsh House, Canon-  
bie  
1863 **Mein**, William, Seedsman, Crofthouse,  
Kelso  
1859 **Meldrum**, J., of Eden Bank, Pittormie,  
Cupar-Fife  
1854 **Melrose**, Jonathan, Coldstream  
1869 **Melrose**, Patrick, West Loch, Eddle-  
stone  
1819 **Melville**, J. Whyte, of Bennoch, y,  
Mount Melville, St Andrews  
1877 **Melvin**, Alex. R., Bonnington, Wil-  
kieston  
1862 **Melvin**, Charles, Penston, Tranent  
1849 **Melvin**, James, Bonnington, Wilkie-  
ston  
1876 **Menzies**, Alex., Grain Merchant,  
Airdrie  
1863 **Menzies**, Duncan, C.E., 39 York  
Place, Edinburgh  
1864 **Menzies**, Duncan, Blairech, Lairg  
1875 **Menzies**, Fergus, Blackhall, Dunferm-  
line  
1841 **Menzies**, Fletcher Norton, Edinburgh  
—*Secretary of the Society.*  
1853 **Menzies**, Graham, Queen's Gate, Lon-  
don, W.

Admitted	Admitted
1869 Menzies, James, of Pitnacree, M.D., Ballinluig	1853 Millar, Thomas, Briggs, Cramond Bridge
1874 Menzies, John, Caledonian Hotel, Inverness	1854 Millar, Thomas, of Balliliesk, Dollar
1870 Menzies, John, Bankhead, Dunse	1871 Millar, William, Over Kinfauns, Perth
1849 Menzies, J. A. Robertson, Dunalastair, New Zealand	1843 Miller, Captain Alexander Penrose
1877 Menzies, Neil James, yr. of Menzies, Scots Fusilier Guards	1873 Miller, Colin W., Wellwood, Bridge of Allan
1841 MENZIES, Sir Robert, of Menzies, Bart., Farleyer, Aberfeldy	1868 Miller G. J., of Frankfield, Glasgow
1871 Menzies, Robert, S.S.C., 5 North St David Street, Edinburgh	1861 Miller, George, St Magdalenes, Perth
1865 Menzies, William, Keilator, Killin	1853 Miller, Hew, Westerton, Ochtertrey, Crieff
1870 Menzies, William J., W.S., 22 Hill Street, Edinburgh	1861 Miller, John, Scrabster, Thurso
1861 Mercer, Daniel, Achamore, Dunoon	1874 Miller, John, Seafeld, Cullen
1850 Mercer, Græme R., of Gorthy, Glen Tulchan, Perth	1843 Miller, O. G., Dundee
1861 Mercer, John, Ardnadam, Dunoon	1873 Miller, Thomas, of Myres, St Ninians
1870 Merricks, H. J., Eskhill, Roslin	1864 MILLER, Sir William, of Manderston, Bart., Dunse
1870 Merricks, J. L., Gunpowder Mills, Roslin	1879 Miller, William, Pond Cottage, Whitehouse, Aberdeenshire
1870 Merricks, William, Gunpowder Mills, Roslin	1877 Millican, John, Wedholm House, Abbey Town, Carlisle
1872 Merrilees, Robert, 19 Hope Street, Glasgow	1870 Millie, George, Kilmaron, Cupar-Fife
1875 Merson, James, Craigwillie, Huntly	1878 Milligan, James, Hayfield, Thornhill
1873 Michael, James, 8 Caledonian Place, Edinburgh	1870 Milligan, John, Merkland, Dunscore
1867 Michie, C. Y., Forester, Cullen House, Cullen	1859 Mills, G., late Horsburgh Castle, Peebles
1876 Middleton, Alex., Belmont, Aberdeen	1858 Milne, A., Corse of Kinnoir, Huntly
1875 Middleton, A. A., Rosefarm, Invergordon	1856 Milne, Alex., Mill of Allathan, Udny
1840 Middleton, C. S., late Merchant, Liverpool	1856 Milne, J., Nethererton of Pittendrum, Fraserburgh
1864 Middleton, George, Cornton, Dingwall	1856 Milne, J., Union Bank of Scotland, Elgin
1863 Middleton, John, Kinfauns Castle, Perth	1857 Milne, James, Balnagubs, Stonehaven
1872 Middleton, Jonathan, Davidston, Invergordon	1859 Milne, James (late Meinfoot, Ecclefechan), America
1872 Middleton, Jonathan, Clay of Allan, Fearn, Tain	1862 Milne, James, Banker, Huntly
1858 Middleton, William, Bridgefoot, Monymusk	1867 Milne, John, Mains of Laithers, Turriff — <i>Free Life Member</i> , 1873.
1873 Mill, Allan, Dods, Lauder	1861 Milne, Peter, 19 Buccleuch Place, Edinburgh
1863 Millar, C. H., of Blair Castle, 5 Palmerston Place, Edinburgh	1866 Milne, W., Tillycairn, Cluny, Aberdeen
1870 Millar, James, of Priestlands, Dumfries	1875 Milroy, James, Galdenoch, Stoneykirk
1877 Millar, James, yr. of Waulkmill, Dunfermline	1876 Milroy, John, Balgreggan Mains, Stranraer
1852 Millar, James Lawson, of Waulkmill, Dunfermline	1863 MINTO, Right Hon. the Earl of, Minto House, Hawick
1864 Millar, James, Mills of Torr, Blair-Drummond	1870 Minto, John D., Dumfries
1878 Millar, Robert, Alloway Cottage, Ayr	1875 Mitchell, Alex., Balgreen, King Edward, Banff
	1851 Mitchell, Alex., of Sauchrie, Maybole
	1857 Mitchell, A., Tillicoultry House, Alloa
	1870 Mitchell, Alex., Implement Maker, Peterhead
	1848 Mitchell, Andrew, Alloa
	1874 Mitchell, Andrew, Drumderfit, Munlochry
	1875 Mitchell, Andrew, Ratagan House, Lochalsh, Glenshiel

Admitted

- 1878 Mitchell, Andrew, Barcheskie, Kirkcudbright  
 1861 Mitchell, David, Burnton, Laurence-kirk  
 1867 Mitchell, Duncan, Arrochar  
 1877 Mitchell, George, Broxburn Park, Broxburn  
 1848 Mitchell, H., of Polmood, 45 Albany Street, Edinburgh  
 1857 Mitchell, Hugh, High Lossit, Campbeltown  
 1877 Mitchell, Hugh, Banker, Pitlochry  
 1851 Mitchell, James, Dologan, Aberystwith  
 1874 Mitchell, James R., Drynie, Inverness  
 1857 Mitchell, J., Homeston, Campbeltown  
 1864 Mitchell, James, Banker, Pitlochry  
 1850 Mitchell, J., Ballemenach, Campbeltown  
 1878 Mitchell, James, Aldie Castle, Kinross  
 1873 Mitchell, John, jun., Boreland, Hutton, Lockerbie  
 1861 Mitchell, John, Fliskmiln, Cupar-Fife  
 1876 Mitchell, John, Lairshill, Summerhill, Aberdeen  
 1864 Mitchell, John, Provost of Dingwall  
 1872 Mitchell, John, Knockhouse, Dunfermline  
 1873 Mitchell, John Forbes, of Thainston, Kintore  
 1886 Mitchell, Joseph, Civil Engineer, View Hill, Inverness  
 1878 Mitchell, Joseph, Bankhead, Dalswinton, Dumfries  
 1870 Mitchell, Joseph M., Burnscairth Green, Dumfries  
 1859 Mitchell, Robert, Brewer, 3 Bonnygate, Cupar-Fife  
 1850 Mitchell, S., Dalivaddy, Campbeltown  
 1874 Mitchell, William, North Ossemsley, Lymington, Hants  
 1876 Mitchell, William, Meikle Dens, Longside, Aberdeen  
 1862 Mitchell, Wm., Merchant, Montrose  
 1869 Mitchell, Wm., S.S.C., 15 Magdala Crescent, Edinburgh  
 1863 Mitchell, Wm., Ribigill, Tongue, Sutherlandshire  
 1868 Mitchell, Wm. A., Auchnagathel, Keig, Aberdeen  
 1849 Mitchell, W. G., of Carwood, Biggar  
 1861 Moffat, George, 10 Hamilton Terrace, Partick  
 1860 Moffat, James, Gateside, Kirkconnel, Sanquhar  
 1867 Moffat, James, of Kenervie, British Linen Bank, Castle-Douglas  
 1869 Moffat, James, Kirkinton Park, Kirkcudbright  
 1850 Moffat, John, Craick, Hawick

Admitted

- 1879 Moffat, Robert Thomas, Ardnacloich, Moniaivo  
 1862 Moffat, Thomas, Drumbuie, Sanquhar  
 1864 Moffat, Wm., Chatsworth, Victoria  
 1871 Moir, James, Banker, Alloa  
 1858 Moir, James, Mains of Wardhouse, Inch, Aberdeen  
 1873 Moir, James M'Arthur, of Hillfoot, Dollar  
 1876 Moir, Peter, Nottingham Place, Edinburgh  
 1876 Moir, William, Nottingham Place, Edinburgh  
 1873 Mollison, James, Factor, Dochgarroch Lodge, Inverness  
 1842 Moncrieff, Alexander, W.S., Perth  
 1852 Moncrieff, Lt.-Col. Alexander, of Barnhill, Perth  
 1866 Moncrieff, David Scott, W.S., 24 George Square, Edinburgh  
 1848 MONCRIEFF, Right Hon. Lord, of Tulliebole, Lord Justice-Clerk, 15 Great Stuart Street, Edinburgh  
 1843 MONCRIEFFE, Sir Thomas, of Moncrieffe, Bart., Bridge of Earn  
 1878 Monilaws, Rev. James John, Middlebie Manse, Ecclefechan  
 1833 Monro, A. B., of Auchinbowie, Stirling  
 1851 Monro, David, of Allan, Tain  
 1846 Monteith, B., Tower Mains, Liberton  
 1866 Monteith, D., Belleville Lodge, Blacket Place, Newington, Edinburgh  
 1837 Monteith, Robert, of Carstairs  
 1878 Montgomery, And., Boreland, Castle-Douglas  
 1843 MONTGOMERY, Sir G. Graham, of Stanhope, Bart., M.P., Stobo Castle, Stobo —*Honorary Secretary of the Society*  
 1879 Montgomery, John, Compston End, Kirkcudbright  
 1846 Montgomery, John H., of Newton, Stobo Castle, Stobo  
 1873 Montgomery, Wm., jun., Parkend Farm, Helensburgh  
 1878 Montgomery, William, Banks, Kirkcudbright  
 1876 MONTROSE, His Grace the Duke of, Buchanan Castle, Drymen  
 1839 Moore, John C., of Corsewall, Stranraer  
 1852 Moray, Chas. Home Drummond, of Blairdrummond, Stirling  
 1869 Moray, Lieut.-Col. H. D., yr. of Abercairny, M.P., Crieff  
 1876 Moir, John, Fordhead, Gargunnoch  
 1868 Morgan, David, South Mains of Ethie, Arbroath  
 1878 Morison, Bethune George Walker, of Falfeld, Cupar Fife



## Admitted

- 1861 Morison, James, Holt Farm, Studley, Warwickshire  
 1850 Morison, James G., Glasgow  
 1862 Morison, J. B. B., of Finderley, Kinross  
 1871 Morris, William, V.S., 7 Langstane Place, Aberdeen  
 1877 Morrison, Andrew, Broomrigg, Pencaitland  
 1855 Morrison, Charles, of Islay, Bridgend, Islay  
 1858 Morrison, Harry L. L., of Blair, Aberdeen  
 1850 Morrison, James, Glasgow  
 1878 Morrison, James M., Banker, Stirling  
 1876 Morrison, John, junior, Hattonslap, Old Meldrum  
 1859 Morrison, John, West Dalmeny, South Queensferry  
 1876 Morrison, Thomas, 32 Glassford Street, Glasgow  
 1872 Mortimer, Thomas A., 86 George Street, Edinburgh  
 1876 Mortimer, William, Old Keig, Keig  
 1885 Morton, H., Belvidere House, Trinity  
 1861 Morton, J., Lambieletham, St Andrews  
 1875 Morton, John, Nether Abington, Abington  
 1861 Morton, John, North Muirton, Perth  
 1859 Mossman, H., of Auchtyfardle, Lanark  
 1843 Moubray, John M., late of Hartwood  
 1878 Moubray, John M., Strone House, Strone, Greenock  
 1862 Moubray, Robert, Cambus Distillery, Stirling  
 1865 Mounsey, J. T., of Kingfield, Longtown, Cumberland  
 1877 Mounsey, William R., Lowther, Newton, Penrith  
 1867 Muckart, James, Land Steward, Barns House, Maybole  
 1878 Muil, James, Grain Merchant, Alloa  
 1878 Muir, Andrew Lees, Coal Merchant, Stirling  
 1852 Muir, G. W., Kirkhouse, Traquair, Innerleithen  
 1878 Muir, James, Lochfergus, Kirkcudbright  
 1848 Muir, John, late of Gartferrie  
 1878 Muir, R. S., Rector of Public School, Lockerbie  
 1877 Muir, William, Lochdougan, Castle-Douglas  
 1862 Muirhead, E. W., The Hill, Putney, Surrey  
 1872 Muirhead, F., Eaglescarnie Mains, Haddington  
 1863 Muirhead, George (late Durdie, Errol), London  
 1872 Muirhead, Geo., Paxton, Berwick-on-Tweed

## Admitted

- 1865 Muirhead, J. J., 62 Princes Street, Edinburgh  
 1875 Muirhead, Thomas, North Crookston, Hamilton  
 1875 Muirhead, Wm., Auchensairn, Bishopbriggs  
 1876 Muirhead, William, Meikle Richorn, Dalbeattie  
 1873 Muirhead, William, Pirnhall, Bannockburn  
 1878 Munby, Edward Chas., Myton Grange, Helperby, Yorkshire—*Free Life Member*  
 1876 Mundell, James P., Gordonbush, Sutherlandshire  
 1874 Mundell, John, Gorthlic, Foyers, Inverness  
 1878 Mundell, Walter, Eilanreach, Glenelg  
 1870 Mundell, Walter Grieve, Inverlael, Lochbroom, Dingwall  
 1864 Munro, A., Ballintraid, Invergordon  
 1874 Munro, Alexr., Ord, Invergordon  
 1864 Munro, D., Contin, Dingwall  
 1877 Munro, Duncan H. Campbell, of Kenlochlaich, Mileburn, Gourrock  
 1853 Munro, John, Fairnington, Kelso  
 1877 Munro, John, of Swordale and Limalair, Dingwall  
 1874 Munro, John, Seedsman, Inverness  
 1870 Munro, Robert, Covesea, Duffus, Elgin  
 1870 Munro, William, Kenmore, Aberfeldy  
 1875 Murdoch, Alex., Gartcraig, Shettleston  
 1865 Murdoch, George Burn, 4 Bruntsfield Terrace, Edinburgh—*Free Life Member*  
 1875 Murdoch, James, Carntyne, Shettleston  
 1874 Murdoch, James F., Hallside, Cambuslang  
 1853 Murdoch, John Burn, of Gartincaber, Advocate, Greenhill Lodge, Edinburgh  
 1875 Murdoch, John, Carntyne, Shettleston  
 1875 Murdoch, John, Hilton, Bishopbriggs  
 1857 Murdoch, Robert, Hallside, Cambuslang  
 1878 Murdoch, Robert, Kilnotrie, Castle-Douglas  
 1856 Murdoch, William, Solicitor, Huntly  
 1847 Mure, Hon. Lord, 12 Ainslie Place, Edinburgh  
 1861 Mure, Lieut.-Col. William, M.P., of Caldwell, Beith  
 1870 Mure, William J., Advocate, 12 Ainslie Place, Edinburgh  
 1878 Murray, Allan, Castlemilk Mill, Lock-  
 erbie

Admitted

- 1846 Murray, Andrew, of Conland, 67 Bedford Gardens, Kensington, London  
 1828 Murray, Anth., of Dollerie, W.S., 141 George Street, Edinburgh  
 1877 Murray, A. Graham, Advocate, 7 St Colme Street, Edinburgh  
 1879 Murray, Benjamin Rigby, of Parton, Castle-Douglas  
 1879 Murray, Geo. Rigby, yr., of Parton, Castle-Douglas  
 1871 Murray, C. A., Taymount, Stanley  
 1864 Murray, D., Gruinard, Ross-shire  
 1871 Murray, David, Dunira, Crieff  
 1871 Murray, David, Banker, Meigle  
 1860 Murray, Rev. George, of Torquhain, Balmacellian Manse, New Galloway  
 1854 Murray, George, New Zealand  
 1865 Murray, G. R., Fininness, Castle-Douglas  
 1867 Murray, G., Elvaaston Castle, Derby  
 1869 Murray, G. W., Banff Foundry, Banff  
 1843 Murray, Jack H., Admiral, R.N., East-haugh, Pitlochry  
 1857 Murray, James, Dumfries Arms Hotel, Cumnock  
 1873 Murray, James, Gartur, Stirling  
 1861 Murray, James, Cutter House, Drymen  
 1869 Murray, James Wolfe, of Cringletie, Peebles  
 1846 MURRAY, Sir John, of Philiphaugh, Bart., Selkirk  
 1862 Murray, John L., of Heavyside, Biggar  
 1863 Murray, Lieut.-Col. John, of Polmaise, Stirling  
 1878 Murray, John, Munnieston, Thornhill, Stirling  
 1868 Murray, John, of Wooplaw, Galashiels  
 1878 Murray, Patrick, Fairryknowe, Ecclefechan  
 1862 MURRAY, Sir Patrick Keith, of Ochtertyre, Bart., Crieff  
 1850 Murray, Robert, 64 Grove Street, Edinburgh  
 1858 Murray, R., 7 Roxburgh Place, Edinburgh  
 1874 Murray, Robert G., of Spittal, Biggar  
 1876 Murray, Robert W. E., Wester House Byres, Galashiels—*Free Life Member*  
 1857 Murray, Thomas, Braidwood, Penicuik  
 1852 Murray, Thomas G., W.S., 11 Randolph Crescent, Edinburgh  
 1869 Murray, Wm., Murdoston, Shotts  
 1856 Murray, William, Kilcoy, Kilearnan, Inverness  
 1858 Murray, Wm., Mains of Pittendreich, Turriff  
 1879 Murray, W. G. G., Kersknowe, Kelso  
 1859 Murrie, John, Banker, Stirling  
 1859 Mustard, Alex., Leuchland, Brechin

Admitted

- 1876 Mutch, Alexander, Mains of Newhall, Stonehaven  
 1875 Mutter, John, 29 Chalmers Street, Edinburgh  
 1858 Myers, Geo. C., Town-Clerk, Montrose  
 1864 Myles, James, Deanside, Renfrew  
 1860 Mylne, Thos., Niddrie Mains, Liberton  
 1874 Nairne, William, of Dunsinnane, Perth  
 1843 NAPIER and ETTRICK, Right Hon. Lord, K.T., Thirlstane Cattle, Selkirk  
 1875 Napier, John S., of Lethawe, Strathaven  
 1848 NAPIER, Sir R. J. M., of Milliken, Bart., Johnstone, Renfrewshire  
 1857 Napier, Dugald, Australia  
 1840 Napier, George, Advocate, Sheriff of Peeblesshire, Coates Hall, Edinburgh  
 1872 Nares, A. F., Brucktor, Old Meldrum  
 1870 Neilson, Joseph, Killimington, Kirk gunzeon, Dumfries  
 1867 Neilson, William, Estate Factor and Banker, Bank of Scotland, Bellshill  
 1871 Nelson, Charles, Skateraw, Dunbar  
 1859 Nelson, Michael, Hill of Drip, Stirling  
 1865 NEPEAN, Sir M. H., of Loders Court, Bart., Bridport  
 1845 Newall, John, Mexico  
 1838 Newton, Jas. E., of Linnbank, Lanark  
 1865 Newton, Captain Hay, of Newton, Haddington  
 1837 Newton, Robert P., of Castlandhill, Polmont Bank, Polmont  
 1872 Newton, T. H. G., Barrels Park, Henley-in-Arden, Birmingham  
 1819 Nicholson, Major Allan M., of Armour  
 1861 Nicholson, Robert, Glencaple, Dumfries  
 1878 Nicholson, William Newzan, Trent Iron Works, Newark  
 1867 Nicol, Alex., 89 Marischal Street, Aberdeen  
 1869 Nicol, W. E. (of Ballogie Banchory), 13 Hyde Park Terrace, London. W.  
 1844 Nicoll, Alexander, late of Edinburgh  
 1867 Nicoll, T. Munro, Littleton, Kirriemuir  
 1857 Nicolson, James Badenach, of Glenberrie, Fordoun  
 1857 Nicolson, Michael Hugh Stewart, of Carnock, Ardgowan, Greenock  
 1857 Nicolson, Neil, Corra, Ardlamont, Greenock  
 1878 Nimmo, Alex., of West Bank, Falkirk  
 1852 Nimmo, Matt., Foot of Green, Stirling  
 1870 Nisbet, Jas., of Lambden, Greenlaw, Berwickshire

## Admitted

- 1875 Nisbet, John, Longgreen, Darvel, Kilmarnock  
 1865 Nisbet, Ralph P., Estate Office, Thorney, Peterborough  
 1847 Nisbett, J. M., of Cairnhill, Drum, Edinburgh  
 1860 Niven, Alexander T., C.A., 6 Abbotsford Crescent, Edinburgh  
 1873 Nivison, Stewart, Lairdlaugh, Dalbeattie  
 1878 Nixon, R. L., Bonstead Hill, Burghby-Sands, Carlisle  
 1878 Nonnen, John Edward, 11 Merchiston Park, Edinburgh—*Free Life Member*  
 1862 Norie, Henry Hay, W.S., Perth  
 1860 Norman, William, Hall Bank, Aspatia—*Free Life Member* 1873  
 1867 Norris, Pet., Todholes, Fintry, Stirling  
 1868 OCHTERLONY, Sir Charles Motcalfe, of Ochterlony, Bart., St Andrews  
 1859 Odams, James, London  
 1873 Ogilvie, A. M., Tillynaught, Portsoy  
 1854 Ogilvie, Archibald, Old Liston, Ratho  
 1820 Ogilvie, Captain William, R.N.  
 1853 Ogilvie, Wm. R., Askrigg Hall, Penrith  
 1860 Ogilvie, George, Holefield, Kelso  
 1868 Ogilvy, Donald, of Clova, Balnaboth, Kirriemuir  
 1870 Ogilvy, Col. James W., Rannagulzion, Blairgowrie  
 1824 OGILVY, Sir John, of Inverquhar, Bart., Baldovan House, Dundee  
 1836 Ogilvy, John, of Inshewan, 4 Church Hill, Edinburgh  
 1859 Ogilvy, John, Harecraig, Dundee  
 1874 Ogilvy, John Francis, of Corrimony, Glen Urquhart  
 1871 Ogilvy, Reginald Howard Alexander, yr. of Inverquhar, Millhill, Inchture  
 1844 Ogilvy, Lt.-Col. Thomas W., of Ruthven, Meigle  
 1872 Oliphant, L. J., of Condie, Guards' Club, London  
 1873 Oliphant, Thomas T., of Rossie, Bridge of Earn  
 1850 Oliver, James, Howpasley, Hawick  
 1852 Oliver, James, of Thornwood, Hawick  
 1853 Oliver, Robert, of Blakelaw, Lochside, Kelso  
 1856 Oliver, Thomas, Redheughs, Corstorphine  
 1856 Oliver, W. Elliot, Yarrow Cottage, Selkirk  
 1873 Oliver, Wm. M., Howpasley, Hawick  
 1867 ORANMORE and BROWNE, Right Hon. Lord, Castle Macgarrett, Mayo  
 1873 Orr, James, Hill, Whitburn

## Admitted

- 1841 Ord, John, of Over Whitton, Nisbet, Kelso  
 1875 Ord, John Robert, Haughton Hall, Darlington  
 1858 Orde, Sir John W. Powlett, of Kilmory, Bart., Auchnaba, Lochgilphead  
 1854 ORMDALE, Hon. Lord, 14 Moray Place, Edinburgh  
 1848 Ormiston, William T., of Glenburn Hall, Jedburgh  
 1875 Orr, James, of Harvieston, Dollar  
 1878 Osborne, D. M., 125 St Anne Street, Liverpool  
 1848 Oswald, James Townsend, of Dunnicker, Kirkcaldy  
 1870 Oswald, Richard A., of Auchincruive, Ayr  
 1863 Otto, Wm. E., Jedneuck, Jedburgh  
 1872 Outhwaite, John, Bainesse, Catterick  
 1878 Ovens, Walter, Torr House, Castle Douglas  
 1876 Ovens, William R. (Thos. Ovens and Sons), Leith  
 1852 Pagan, A. C., Rockclyffe, Crief  
 1875 Pagan, G. H., Banker, Cupar Fife  
 1872 Panton, Patrick, of Edenbank, Kelso  
 1871 Panton, Jn., of Dalnagairn and Carsie, Blairgowrie  
 1873 Panton, Wm., Maryfield, Blairgowrie  
 1874 Park, Ebenezer, Engineer, Greenside Lane, Edinburgh  
 1863 Park, James, Stoneyhill, Musselburgh  
 1873 Park, James D., Engineer, Greenside Lane, Edinburgh—*Practical Engineer to the Society.*  
 1866 Park, Thomas B., Springfield, Haddington  
 1874 Park, William, Gallowhill, Paisley  
 1867 Parnell, Dr Richard, 17 Merchiston Avenue, Edinburgh  
 1877 Pate, Andrew, Easter Middleton, Gorebridge  
 1867 Paterson, Charles, Canford Manor, Wimborne  
 1864 Paterson, D. A., Merchant, Leith  
 1870 Paterson, Dav. J., Watch Hall, Annan  
 1877 Paterson, George, Fallhills, Penicuik  
 1877 Paterson, G. R., Drumalbin, Thankerton, Lanarkshire  
 1872 Paterson, Jas., of Kinnettles, Dundee  
 1872 Paterson, James, Kidshielhaugh, Dunse  
 1853 Paterson, Jas., Whitehouse, Lamlash, Arran  
 1860 Paterson, James, of Carmacoup, Douglas  
 1878 Paterson, James, of Bankton, Mid-Calder

Admitted

- 1847 Paterson, John, jun., late Kilconan, Campbeltown  
 1867 Paterson, John, Skirling Mains, Biggar  
 1860 Paterson, John, Eastfield, Penicuik  
 1862 Paterson, John, Howcleuch, Moffat  
 1870 Paterson, John, Wood of Kirkmichael, Dumfries  
 1873 Paterson, John Thomas Scott, Plean Farm, Bannockburn  
 1877 Paterson, John, Ewingston, Gifford  
 1877 Paterson, John, Colfin, Portpatrick  
 1877 Paterson, Richard L., Langside, Dalkeith  
 1864 Paterson, J. W., Terrona, Langholm  
 1878 Paterson, Robert B., V.S., Green-brae, Dumfries  
 1848 Paterson, Robert, of Birthwood, Biggar  
 1869 Paterson, Thomas, W.S., 81A George Street, Edinburgh  
 1861 Paterson, Walter, Merchant, Glasgow  
 1870 Paterson, William, of Brocklehurst Mouswald, Dumfries  
 1874 Paterson, Wm. Grindlay, Scotsburn, Invergordon  
 1865 Paterson, Wm. Innes, Armadale, Thurso  
 1873 Paterson, William, Auldtown of Carnousie, Turriff  
 1867 Paton, Alex., Norwood, Sydenham, London  
 1873 Paton, Jn., of Westbourne, Tili-coultry  
 1859 Paton, John, Standingstone, Haddington  
 1833 Paton, John, of Crailing, Kelso  
 1841 Paton, John, of Grandholm, Aberdeen  
 1873 Paton, Robert, West Drip, Stirling  
 1865 Patrick, James, late of Kilmun, Argyllshire  
 1873 Patrick, James, Queenzieburn, Kilsyth  
 1879 Patterson, Alex. Broombarns, Forgan-denny, Bridge of Earn  
 1850 Patterson, John, Balliemore, Strachur  
 1861 Patterson, Robert, Cardross, Stirling  
 1879 Pattillo, Alex., Dares, Inverness  
 1864 Pattison, A. D., of Dalmuir, Glasgow  
 1869 Pattison, George H., Advocate, Sheriff of Roxburgh, Berwick, and Selkirk, 9 Albyn Place, Edinburgh  
 1872 Pattison, J. P., of the Haining, Selkirk  
 1861 Pattullo, G., Coupar Grange, Coupar-Angus  
 1861 Pattullo, Peter, Eassie Farm, Meigle  
 1877 Paul, Gavin, Wilsontown, Lanark  
 1877 Paul, Walter, Ibert, Killearn  
 1866 Paul, William, Advocate, Aberdeen

Admitted

- 1877 Paxton, Thomas, Bowling Green Street, Leith  
 1878 Payne, James, Thornhill  
 1864 Pearson, Andrew A., of Springfield Carluke  
 1863 Pearson, David A., Johnston Lodge, Laurencekirk  
 1858 Peat, John, Manor, Stirling  
 1872 Peddie, John Dick, Architect, 33 Buckingham Terrace, Edinburgh  
 1867 Peile, H. R. B., Mansion House, Greenock  
 1864 Pelham, C. Thursby, Cound Hall, Shrewsbury  
 1871 Pender, Chas. P., Glenferness Mains, Dunphail  
 1857 Pender, George, 5 Winton Terrace, Crosshill, Glasgow  
 1865 Pender, John Menzies, Glenferness, Mains, Dunphail  
 1869 Pender, John, M.P., 18 Arlington Street, London, S.W.  
 1869 Pender, J., Springhill, Stane, Motherwell  
 1878 Pendreigh, George, Catcune, Gore-bridge  
 1868 Penman, John, Bonally, Colinton  
 1859 Penny, Thomas, Bartlehill, Coldstream  
 1873 Pennycook, William, Wester Logie, Dunkeld  
 1854 Peter, Charles, Canterland, Montrose  
 1854 Peter, John, Croyard, Beaulieu  
 1875 Peterkin, Jas. Grant, of Grange, Forres  
 1871 Petrie, George, Easter Suddie, Avoch  
 1868 Petrie, James, Banker, Dufftown  
 1871 Petrie, Stephen F., 350 Leith Walk, Edinburgh  
 1870 Petrie, William, Kirkhill, Elgin  
 1876 Petrie, W. A., Rosebrae, Elgin  
 1875 Pettigrew, James, Cairnhill House, Airdrie  
 1856 Philip, George, Boynds, Keith Hall, Inverurie  
 1851 Philip, John, Polton East Mains, Lasswade  
 1858 Philip, W., Lofthillock, Keith Hall, Inverurie  
 1864 Philip, Robert, Royal Hotel, Bridge of Allan  
 1876 Picken, Thomas, Barsalloch, Port William  
 1857 Picken, James, Laigh Langside, Craigie, Kilmarnock  
 1857 Picken, John, Mansfield Mains, New Cumnock  
 1860 Picken, R., Barnkirk, Newton-Stewart  
 1871 Pirrie, Jas. P., Coachbuilder, Perth  
 1873 Pitblado, Charles B., Colton Mains, Dunfermline

## Admitted

- 1878 Pitcairn, Henry H., Tiroran House, Mull  
 1863 Pitcairn, John, 22 Queen Street, St Andrews  
 1859 Pitman, Frederick, W.S., 11 Great Stuart Street, Edinburgh  
 1859 Pittendrigh, A., Mains of Park, Lonmay  
 1871 Playfair, George G., Belle Isle, Wakefield  
 1859 Plenderleith, A., Moorfoot, Gorebridge  
 1842 Plummer, Charles Scott, of Sunderland Hall, Selkirk  
 1860 Plummer, J., 11 Bruntsfield Place, Edinburgh  
 1844 Pollok, Allan, of Faside, Newton Mearns  
 1879 Pollok, John, of Ronachan Clachan, Greenock  
 1873 Pollok, John, of Blackhouse, Mearns  
 1868 POLWARTH, Right Hon. Lord, Mertoun House, St Boswells  
 1877 Pople, George, Newhouse, Perth  
 1867 Pople, H. W., Royal British Hotel, Perth  
 1861 Pople, J. B., of Newhouse, Perth  
 1878 Porteous, David Scott, of Lauriston, Montrose  
 1877 Porter, George, jun., 27 Wellington Place, Aberdeen  
 1855 Porter, James, Inverurie  
 1854 Pott, Gideon, of Knowsouth, Jedburgh  
 1867 Potter, James, of Glenfuir, Falkirk  
 1863 Potts, Andrew, Lewinshope, Selkirk  
 1861 Powrie, Archibald, Lairwell, Perth  
 1849 Powrie, James, of Reswallie, Forfar  
 1864 Prentice, George, of Strathore, Newbigging, Burntisland  
 1865 Prentice, R. R., Skeddoway, Kirkcaldy  
 1875 Preston, W. C., Achonachie, Beauly  
 1873 Pretsell, James, Drummelzier Place, Rachen Mill, Biggar  
 1863 Primrose, James Thomson, Sauchland Ford  
 1875 Pringle, Adam T., India Buildings, Kelso  
 1859 Pringle, Alexander, of Whytbank, Selkirk  
 1863 Pringle, David, of Wilton Lodge, Hawick  
 1863 Pringle, David, Cleethaugh, Jedburgh  
 1876 Pringle, James, 1 Bellevue Place, Edinburgh  
 1863 Pringle, James Thomas, of Torwoodlee, Galashiels  
 1865 Pringle, John, Garvald, Gorebridge  
 1852 Pringle, Robert K., The Grove, Darley Dale, Matlock

## Admitted

- 1877 Pringle, William, Huntly Cote, Gorebridge  
 1868 Profet, Dr, Craigowan Cottage, Balmoral, Ballater  
 1877 Pudney, R. L., Earls Colne, Hallstead, Essex—*Free Life Member*  
 1868 Proudfoot, T., Pinkiehill, Musselburgh  
 1864 Pullar, John, Ettrick House, Bridge of Allan  
 1871 Pullar, Robert, Perth  
 1871 Pullar, William, Kingussie  
 1865 Puntun, F. H., West Fortune, Drem  
 1872 Purdom, Walter, Blinkbonny, Kirkbank, Kelso  
 1861 Purves, James, Lochend, Thurso  
 1871 Purves, Thomas, Rhifail, Bettyhill, Thurso  
 1869 Purves, William, Thurdistoft, Thurso  
 1844 Purvis, John, of Kinaldy, St Andrews  
 1869 QUEENSBERRY, Most Noble the Marquis of, Kinmount, Annan  
 1872 Rae, Robt., Burnbank, Foulden, Berwick-on-Tweed  
 1860 Rae, William, Gateslack, Thornhill  
 1870 Rain, William, Kempleton, Castle Douglas  
 1867 Raines, Thomas, Bridgehaugh, Stirling  
 1838 Rait, D. C., Goldsmith, Glasgow  
 1867 Ralston, Andrew W. (late Lagg, Ayr), America  
 1868 Ralston, Andrew, Glamis, Forfar  
 1870 Ralston, A. R., Genoch, Straiton, Maybole  
 1871 Ralston, James J., Old Faskally, Pitlochry  
 1877 Ralston, John, Milmain, Stranraer  
 1876 RAMSAY, Right Hon. Lord, Dalhousie Castle, Bonnyrigg  
 1869 Ramsay, Alex., *Banffshire Journal Office*, Banff  
 1871 RAMSAY, Sir James Henry, of Bamf. Bart., Alyth  
 1856 Ramsay, John, of Kildalton, M.P., Port Ellen, Greenock  
 1875 Ramsay, John, Butcher, Kilbarchan  
 1856 Ramsay, Col. John, of Barra, Straloch, Aberdeen  
 1841 Ramsay, Robert B. Wardlaw, of Whitehill, Lasswade  
 1837 Ranken, George, Australia  
 1874 Ranken, John, Ballencieriff Mainz, Longniddry  
 1878 Rankin, Alex., Aird, Stranraer  
 1866 Rankin, George, Union Bank, Aberfeldy  
 1875 Rankin, Patrick, M.D., Willow Bank, Airdrie

Admitted

- 1876 Rankine, Alex. M., yr. of Beoch, Lochlands, Maybole  
 1874 Rankine, John, of Bassendean, 7 Nelson Street, Edinburgh  
 1857 Rankine, John, of Beoch, Lochlands, Maybole  
 1868 Rankine, R. W., Rosebank, Falkirk  
 1859 Rannie, M. G., Edenmouth, Kelso  
 1878 Ransome, James Edward (Ransomes, Sims, and Head), Ipswich  
 1868 Rate, George, Mungoswells, Drem  
 1864 Rattray, Col. J. C., of Craighall, Blairgowrie  
 1874 Rattray, James Clark, M.D., of Coral Bank, Blairgowrie  
 1856 Rawdin, Joseph, Chemist, Jedburgh  
 1870 Rawline, J. D., Raglan Castle, Raglan  
 1864 Ray, William, Sunbank, Elgin  
 1863 Rea, Charles, Doddington, Wooler  
 1878 REAY, Right Hon. Lord, Carolside, Earlstoun  
 1878 Reay, Thomas, Abbey Town, Carlisle  
 1874 Reddie, Captain John Griffiths, of Redhouse, Rickarton House, Stonehaven  
 1857 Redfern, W. Macquarrie, London  
 1864 Reekie, A., Walton, Auchtertool, Kirkcaldy  
 1872 Reekie, Wm., Carterhaugh, Selkirk  
 1857 Reid, Alexander, Cruvie, Cupar  
 1873 Reid, Alexander, Architect, Elgin  
 1844 Reid, Charles G., W.S.  
 1876 Reid, Donald, Donavoured, Pitlochry  
 1867 Reid, F. R., of Gallowflat, Rutherglen  
 1879 Reid, Frank R., jun., Gallowflat, Rutherglen  
 1858 Reid, George, 23 Justice Mills, Aberdeen  
 1874 Reid, George, Baads of Drum, Peterculter, Aberdeen  
 1876 Reid, George, jun., Clinterty, lackburn, Aberdeen  
 1871 Reid, George, of Tilliery, Milnathort  
 1877 Reid, Dr James, Templeton, Mossat  
 1855 Reid, James, Somnerfield, Haddington  
 1872 Reid, Dr J. B., Aberfeldy  
 1867 Reid, J., Corsebank, Sanquhar  
 1868 Reid, James, Greystone, Alford  
 1876 Reid, James, Horse Bazaar, Peterhead  
 1873 Reid, James, Kilmundy, Glamis  
 1867 Reid, James R., Woodburn, Rutherglen  
 1875 Reid, James, Inchberry, Inverness  
 1869 Reid, James, Ittingston, Huntly  
 1859 Reid, John, Ingrie, Lealie  
 1870 Reid, John James, Advocate, 18 Alva Street, Edinburgh

Admitted

- 1876 Reid, Peter, Crofts of Glenuick, Ballater  
 1850 Reid, Walter, Drem  
 1864 Reid, Walter, Craigarnhall, Bridge of Allan  
 1871 Reid, William, Pittentian, Crieff  
 1871 Reith, James, South Auchincleach, Skene, Aberdeen  
 1876 Reith, Robert, Middlefield, Woodside, Aberdeen  
 1878 Rennie, James, Brewer, Dumfries  
 1877 Rennie, John, Craigieburn, Falkirk  
 1878 Rennie, William, Andrewsford, Fyvie  
 1873 Renny, Thomas, of Dundarroch, Pitlochry  
 1879 Renwick, William, Yoker Mains, Yoker  
 1872 Renwick, John, Nurseryman, Melrose  
 1859 Reoch, J. F., 39 Inverleith Row, Edinburgh  
 1873 Richardson, Alex., Castleton, Gorebridge  
 1863 Richardson, D., of Hartfield, Glasgow  
 1874 Richardson, George, Western Club, Glasgow  
 1861 Richardson, Captain James T. Stewart, yr. of Pitfour, Perth  
 1823 RICHARDSON, Sir John S., of Pitfour, Bart., Perth  
 1873 Richardson, John, London Road, Carlisle  
 1851 Richardson, John, Writer, Haddington  
 1863 Richardson, J., Mainhill, Haddington  
 1878 Richardson, Ralph, W.S., 19 Castle Street, Edinburgh  
 1837 Richardson, Robert, 16 Bruntsfield Place, Edinburgh  
 1868 Richardson, R., Crailingnook, Jedburgh  
 1878 Richardson, Robert A., Arthurs Place, Lockerbie  
 1879 Richardson, Thomas, Lord Provost of Perth, Perth  
 1878 Richardson, William, Floshead, Gretna  
 1840 RICHMOND and GORDON, His Grace the Duke of, K.G., Gordon Castle, Fochabers  
 1861 Richmond, G., of Balhaldie, Braco  
 1861 Richmond, John, Dron, Bridge of Earn  
 1871 Richmond, T., Hilton, Perth  
 1831 Rickman, Thomas, late Architect, Birmingham  
 1877 Riddell, Andrew, 1 Victoria Street, Edinburgh  
 1863 Riddell, David, Blackhall, Paisley

Admitted	Admitted
1854 Riddell, Thomas, Athelstaneford, Drem	1861 Robertson, David, Allan Hill House, Dunblane
1845 RIDDLELL, Sir T. M., of Sunart, Bart., Strontian	1847 Robertson, David Souter, of Whitehill, Cookston Park, Brechin
1852 Riddell, William, Hundalee, Jedburgh	1854 Robertson, Donald, of Pennyghael, 73 Great King Street, Edinburgh
1863 Riddell, William, Howford, Peebles	1876 Robertson, Duncan, yr. of Pennyghael, 78 Great King Street, Edinburgh
1878 Rigg, James Home, of Tarvit, Cupar-Fife	1864 Robertson, D. G., of Torrie, Callander
1861 Rigg, Wm., Banks, Kirkcudbright	1871 Robertson, D. A. C., North Dowald, Abercairny, Crieff
1877 Rignal, James, Agricultural Implement Agent, 35 George IV. Bridge, Edinburgh	1876 Robertson, George, of Hedderwick, C.E., 47 Albany Street, Edinburgh
1871 Rintoul, Alexander, Ardno, Cairndow	1860 Robertson, George B., 13 Upper Grey Street, Edinburgh
1852 Rintoul, Charles, Kingston, North Berwick	1886 Robertson, James, 27 Albert Place, Stirling
1861 Rintoul, D., Mains of Blebo, Cupar-Fife	1859 Robertson, J., Denbrae, Cupar-Fife
1865 Rintoul, Robert, of Lahill, Largo	1870 Robertson, James A. (late Chapel Park, Kingussie), Virginia, U.S.
1869 Ritchie, Charles, S.S.C., 31 Howard Place, Edinburgh	1876 Robertson, Major James C., Whitefield, Govan
1865 Ritchie, Charles, late Ladoga Lodge, Musselburgh	1873 Robertson, James F., New Mains, North Berwick
1877 Ritchie, David (Kilmux, Kennoway, Fife), 13 Windsor Street, Edinburgh	1874 Robertson, James Hope, Biel Grange, Prestonkirk
1863 Ritchie, James, 140 High Street, Edinburgh	1851 Robertson, James Stewart, W.S., of Edradynate, Ballinluig
1857 Ritchie, John, Newbigging Mains, Carnwath	1876 Robertson, James Stewart, yr. of Edradynate, Ballinluig
1867 Ritchie, John, Whitecastle, Biggar	1876 Robertson, John, Auchnahyle, Pitlochry
1878 Ritchie, John, 11 Morrison Street, Edinburgh	1874 Robertson, John, of Grishernish, Portree
1872 Ritchie, Robert, Cloverhill, Biggar	1855 Robertson, John, Mount Abundance, Queensland
1879 Ritchie, Robert Bower, Accountant, Dundee	1854 Robertson, J., Glencripisdale, Strontian
1853 Ritchie, W., Spott, Dunbar	1870 Robertson, John, West Mitchellton Lochwinnoch
1852 Ritchie, Wm., Pleau Mill, Stirling	1878 Robertson, John, of Golden Grove, South Australia
1865 Ritchie, W., of Middleton, Gorebridge	1864 Robertson, J., Old Blair, Blair-Athole
1841 Robertson, James, Kelso	1867 Robertson, J., Bellaty, Glenisla, Alyth
1863 Robertson, John, Harperton, Kelso	1874 Robertson, John, of Rhynie, Fearn
1863 Robertson, Robert, Ladyrig, Kelso	1856 Robertson, John, 68 Bath Street, Glasgow
1873 Roberts, James, Balmerino, Newport	1873 Robertson, John S., 2 Dundas Terrace, Crosshill, Glasgow
1871 Robertson, Mrs. sen., of Struan, Rannoch	1857 Robertson, Neil, Balquhain, Alexandria
1876 Robertson, Alex., Tocherford, Pitcaple, Aberdeen	1872 Robertson, Peter, Achilty, Dingwall
1856 Robertson, A. F., Ardlaw, Fraserburgh	1872 Robertson, Peter, Coleraine, Ireland
1869 Robertson, Rev. A. Irvine (of Kindrochet), Clackmannan	1870 Robertson, Peter D., late Etteridge, Kingussie
1832 Robertson, Andrew, M.D., of Hopewell, Tarland	1862 Robertson, Peter S., Trinity Nursery, Trinity, Edinburgh
1840 Robertson, Arthur John, Culcabock House, Inverness	1847 Robertson, General Richardson, of Tullybelton, C.B., Bankfoot
1860 Robertson, Dr Charles, Auchtercairn, Gairloch	
1869 Robertson, C., of Kindeace, Invergordon	

Admitted

- 1872 Robertson, Robert, West Barns, Dunbar  
 1876 Robertson, Robt. Wm., of Glenshillish, Rockingham, Kilcroggan  
 1861 Robertson, Stewart Souter, yr. of Whitehill, Carnwath  
 1859 Robertson, W. M., of Gartloch, Huntingdon Cottage, Bridge of Allan  
 1874 Robertson, William, Burnside, Ballindalloch  
 1857 Robertson, William, Cuttlebrae, Fochabers  
 1863 Robertson, William, V.S., Kelso  
 1879 Robertson, William, jun., Two Mile House, Murraishall, Perth  
 1870 Robertson, William A., Abbotshill, Forres  
 1872 Robeson, George, Brotherston, Kelso  
 1863 Robeson, R., Springwells, Coldstream  
 1859 Robey, Robert, Engineer, Lincoln  
 1861 Robinow, Adolph, 21 Clarendon Crescent, Edinburgh  
 1871 Robinson, Robert, King Street, Belper, Derbyshire  
 1878 Robinson, Thomas, Cargo, Carlisle  
 1863 Robson, Charles, Lurdenlaw, Kelso  
 1863 Robson, John, Byreness, Rochester  
 1874 Robson, John, jun., Byreness, Rochester  
 1851 Rodger, David, Penkilm, Garlieston  
 1859 Rodger, Peter, Selkirk  
 1838 Rodger, R., Hadlow Castle, Tunbridge  
 1865 Rodger, Robert M., Estate Factor and Banker, Royal Bank, Airdrie  
 1873 Rodgie, Henry, late Rothies Estate Office, Leslie, Fife  
 1857 Rodger, Hugh, Hillhead, Kilmarnock  
 1862 Rogers, James S., Rose Mill, Dundee  
 1851 Rogerson, G., of Pearseby Hall, Pumplaburn, Moffat  
 1864 Rogerson, James, of Gillesbie, Wamphray, Lockerbie  
 1878 Rogerson, Samuel David, Wamphray Gate, Moffat  
 1837 Rolland, Adam, of Gask, 20 Athole Crescent, Edinburgh  
 1857 ROLLO, Right Hon. Lord, Duncrub House, Dunning  
 1863 Romanes, Robt., of Harryburn, Lauder  
 1873 Rome, Thos., Northampton Downs, Barcoo River, Queensland—*Free Life Member.*  
 1877 Rome, W. E. E., Langholm  
 1857 Ronaldson, Alexander, Glasgow  
 1869 Morrison, John, Dumfries  
 1879 Roscoe, Wm. C., Newton House, Chester  
 1869 Rose, Hugh, Solicitor, Inverness  
 1875 Rose, Rev. Hugh Francis, of Holme Rose, Fort-George Station

Admitted

- 1865 Rose, Jas., Mains of Connage, Fort-George Station  
 1865 Rose, John, Leanach, Inverness  
 1865 Rose, Major James, of Kilravock, Nairn  
 1854 Rose, William, Sheriffston, Elgin  
 1868† ROSEBERRY, Right Hon. the Earl of, Dalmeny Park, Edinburgh  
 1875 Ross, Alexander, Oldtown, Tarland  
 1864 Ross, David, Banker, Dingwall  
 1864 Ross, D. G., Merchant, Dingwall  
 1874 Ross, Duncan, Hilton, Inverness  
 1872 Ross, George, Merchant, Dingwall  
 1839 Ross, George, of Pitcalnie, Parkhill  
 1865 Ross, G., Braclangwell, Invergordon  
 1849 Ross, Lieut.-Colonel George W. H., of Cromarty  
 1858 Ross, H., jun., Union Bank of Scotland, Tarland  
 1877 Ross, James, Baldow, Lennoxton  
 1876 Ross, James, Balblair, Edderton  
 1870 Ross, James, M.D., Linksfield, Elgin  
 1863 Ross, James, Newton-lees, Kelso  
 1871 Ross, James E., Factor, Abercairny, Crieff  
 1870 Ross, John, The Grove, Ravensglass, Carnforth  
 1874 Ross, John, Meikle Tarrel, Fearn  
 1843 Ross, John Leith, of Arnage, Ellon  
 1871 Ross, Peter, Arngrove, Torphins  
 1856 Ross, Thomas, Bachilton, Perth  
 1871 Ross, William, Annesley, Torphins  
 1857† ROSSLYN, Right Hon. the Earl of, Dysart House, Kirkcaldy  
 1870 Rough, Robert, Wellford, Broxburn  
 1850 Roughtead, D., Seedsman, Haddington  
 1878 Routledge, Charles M., Bank Agent, Port-William  
 1878 Routledge, James J. F., Oldmill, Port William  
 1870 Routledge, Wm., Elrig, Port-William  
 1857 Rowan, J. M., Atlas Works, Glasgow  
 1871 Roxburgh, Robert, Seed Merchant, Kinross  
 1837† ROXBURGHE, His Grace the Duke of, K.T., Floors Castle, Kelso  
 1856 Roy, Alex., Waterton, Inch, Aberdeen  
 1871 Roy, Fred, Lewis, of Nenthorn, Kelso  
 1871 Roy, Thomas, Ballendrick, Bridge of Earn  
 1856 Royds, Robert Whyt, late Balgeddie, Kirkcaldy  
 1846 Russell, Alexander James, C.S., 9 Shandwick Place, Edinburgh  
 1854 Russell, Andrew Walker, of Kenlygreen, St Andrews  
 1867 Russell, A., Wishaw House, Lanarkshire



## Admitted

- 1854 Russell, Arthur, Royal Bank, Cupar-Fife  
 1859 Russell, David, Silverburn, Leven  
 1835 Russell, Francis Whitworth, late Bengal Civil Service  
 1877 Russell, George, Carnwath  
 1851 Russell, James M., Greendykes, Tranent  
 1875 Russell, James, National Bank, Airdrie  
 1869 Russell, James, Parbroath, Cupar-Fife  
 1862 Russell, John, Saughton Hall Mains, Murrayfield  
 1834 Russell, Robert, Edinburgh  
 1853 RUSSELL, Sir William, of Charlton, Bart., Gloucester  
 1858 Rust, James, Paddocklaw, Banff  
 1872 Rutherford, Andrew, Rumbleton Law, Gordon  
 1860 Rutherford, George, Monteath's Houses, Gorebridge  
 1863 Rutherford, G., Printonan, Coldstream  
 1874 Rutherford, Dr James, Woodilee Asylum, Lenzie  
 1861 Rutherford, John, Cromwell Park House, Perth  
 1877 Rutherford, John, Wimmera Lodge, 5 Bruntsfield Place, Edinburgh  
 1825 Rutherford, William Oliver, of Edgerston, Jedburgh  
 1863 Rutherford, William A. Oliver, yr. of Edgerston, Jedburgh  
 1854 Ruxton, Andrew, South Artrochie, Ellon  
 1870 Ryrie, Robert, 34 Park Street, Grosvenor Square, London  
 1853 Sadler, William, 15 Devonshire Road, Clapham Park, London, S.W.  
 1869 Saffey, John, of Mornington, Dumfries  
 1856 Salmon, J., The Linn, Johnstone  
 1871 Salmond, David S., Mains of Errol, Errol  
 1858 Salmond, James, Cairnie, Arbroath  
 1868 Salmond, R., Nether Balfour, Durris  
 1845 Salmond, Robert  
 1864 SALTOUN, Right Hon. Lord, Philorth House, Fraserburgh  
 1875 Sandeman, Alex. B., Huntingtower-field, Perth  
 1875 Sanderson, James, Dykefoot, Carnwath  
 1864 Sanderson, William, Corstorphine Bank, Corstorphine  
 1855 SANDILANDS, Hon. James, 81 Princes' Gate, London  
 1876 Sandison, Alex., Uyasound, Urst  
 1873 Sands, James, Milton, Burn of Cambus, Stirling

## Admitted

- 1870 Saunders, R. B., Chapelhill, Kirkcubright  
 1843 Scarth, Robert, of Binscarth, Finstown, Orkney  
 1851 Scobie, John, Lochinver, Golspie  
 1875 Scobie, Neil M'L., Mid Fearn, Ardgay  
 1854 Scoon, Kenneth, 46 Rankellor Street, Edinburgh  
 1850 Scott, Alex., Beanston, Haddington  
 1860 Scott, A., late Society House, Hoptoun, South Queensferry  
 1876 Scott, Alexander, Towie Barclay, Aberdeen  
 1875 Scott, Alex., Cauldcoats, Liberton  
 1848 Scott, Andrew, Glendouglas, Jedburgh  
 1876 Scott, Andrew T. S., of Crosswoodhill, 20 Walker Street, Edinburgh  
 1864 Scott, Right Hon. Lord Charles, Dalkeith  
 1857 Scott, C., Newtonlees, Dunbar  
 1859 Scott, D., 3 Craig Street, Montrose  
 1849 Scott, D., Meadowfield, Duddingston, Edinburgh  
 1878 Scott, David Francis, Meadowfield, Duddingston, Edinburgh  
 1866 Scott, D. G. C., Parks of Inches, Inverness  
 1877 Scott, Lieut.-Col Francis Cunningham, of Malleny, C.B.  
 1863 Scott, George, Mosstower, Kelso  
 1861 Scott, Gideon James (late Hyndhope, Selkirk), New Zealand  
 1861 Scott, Right Hon. Lord Henry, M.P., Dalkeith  
 1859 Scott, Hercules, of Brotherton, Bervie  
 1868 Scott, James, Bogton, Torrance of Campsie  
 1850 Scott, Jas., 1 Woodside Place, Glasgow  
 1862 Scott, James, Easter Tulloch, Stonehaven  
 1878 Scott, James, Distiller, Wishaw  
 1876 Scott, James Bruce, Wester Rora, Longside  
 1870 Scott, Maj.-Gen. James C., United Service Club, Edinburgh  
 1873 Scott, James G., Hill of Ruthven, Perth  
 1863 Scott, Dr James Robson (of Ashtrees, Yetholm), Belford  
 1826 Scott, J., Finnart House, Greenock  
 1870 Scott, John, Clebrig, Laig  
 1874 Scott, John, Noss, Wick  
 1877 Scott, John Lindsay, of Mollance, Castle-Douglas  
 1868 Scott, John Scott Elliot, Buckholm, Galaahiel  
 1868 Scott, John, Springfield House, Uddingston  
 1868 Scott, Malcolm, Balmuildy, Bishopbriggs

Admitted	Admitted
1872 Scott, Peter, Chirnside Crofts, Chirnside	1859 Seton, Henry, V.S., Tolcross, Edinburgh
1841 Scott, Captain Robert, late H.E.I.C.S.	1834 SERTON, Sir W. Coote, of Pitmedden Bart., Aberdeen
1872 Scott, Ralph Erskine, C.A., 25 Melville Street, Edinburgh	1873 Shairp, William, Almond Bank, Broxburn
1863 Scott, Robert, Kinninghall, Hawick	1863 SHAND, Hon. Lord, New Hailes, Musselburgh
1874 Scott, Robert, Easter Manbeen, Elgin	1868 Shand, George, Ordens, Boyndie, Banff
1873 Scott, Robert, Yokieshill, Mintlaw	1870 Shand, John, M.D., Oakley House, Kirkcudbright
1878 Scott, Robert A., Dormont Grange, Lockerbie	1864 Shand, William, New York
1875 Scott, Robert Sinclair, Craigievar, Wemyss Bay	1846 Sharp, James, Helensburgh
1876 Scott, Thomas, Iron Merchant, Grassmarket, Edinburgh	1878 Sharp, John Johnstone, Leaston, Upper Keith— <i>Free Life Member</i>
1863 Scott, T., of Mersington, Whitton, Kelso	1871 Sharp, Peter, Bardrill, Blackford
1860 Scott, T. Robson, of Newton, Jedburgh	1871 Sharp, Thomas, Clathymore, Auchterarder
1861 Scott, Right Hon. Lord Walter, Dalkeith	1835 Shaw, Charles, W.S., Sponish, Lochmaddy
1850 Scott, Walter, Glendronach, Huntly	1872 Shaw, Chas. G., Ayr
1878 Scott, Walter, of Broomlands, Dumfries	1850 Shaw, Hary, Bogfern, Tarland
1863 Scott, W., Mervinslaw, Jedburgh	1863 Shaw, James, Skaithmuir, Coldstream
1857 Scott, Wm., Spylaw, Kelso	1868 Shaw, James, Tillyching, Lumphphanan
1855 Scott, William, Wester Rora, Mintlaw	1861 Shaw, William, Finegand, Glenshee, Blairgowrie
1862 Scott, William, of Burnside, Alyth	1857 Shennan, James, Balig, Kirkcudbright
1875 Scott, William, Condorrat, Airdrie	1844 Shepherd, George, Shethin, Tarves
1863 Scott, William, Howford, Ettrick, Selkirk	1865 Shepherd, George, jun., Craigie, Tarves
1857 Scott, William, Urquhart Road, Old Meldrum	1875 Sherrieff, J., jun., Queen's Hotel, Glasgow
1868 Scott, William, Cononsyth, Arbroath	1864 Sheriff, John Bell, Carronvale, Larbert
1863 Scott, Sir William Monteath, of Ancrum, Bart., Jedburgh	1872 Shiel, And., Impt. Dealer, Coldstream
1872 Scoular, John, Crook, Stirling	1869 Shield, George, Chemist, Arbroath
1842†SEAFIELD, Rt. Hon. the Earl of, Cullen House, Cullen	1877 Shields, James, Byers, Bathgate
1875 Seatter, William, Saviskail, Rousay, Orkney	1871 Shields, John, Wallace Works, Perth
1872 Selby, B. P., Paston, Coldstream	1866 Shiels, George, Balgove, St Andrews
1872 Selby, Robt., Hassendean Bank, Denholm, Hawick	1847 Shirriff, David, Muirton, Drem
1863 Selby, Ephraim, Hassendean Bank, Hawick	1850 Shirriff, Samuel D., Saltecoats, Drem
1830†SELKIRK, Right Hon. the Earl of, St. Mary's Isle, Kirkcudbright	1854 Shortreed, R., Attonburn, Yetholm
1871 Sellar, Alex. G., Ironmonger, Elgin	1877 Sidey, James, Gourdie, Dunkeld
1849 Sellar, P. Plenderleith, Hartfield, Tain	1873 Sievwright, Win., Solicitor, Lerwick
1868 Sellar, R., Implement Maker, Huntly	1866 Sim, Alexander, Fawells, Inverurie
1867 Sempill, John, late Ballemenach, Campbeltown	1870 Sim, Henry, Cattle Salesman, Inverness
1868 Semple, John, Haughs of Kinnaird, Brechin	1875 Sim, John Fraser, Oban
1857 Semple, Thos., Carradale, Campbeltown	1858 Sim, William, 4 St Bernard's Crescent, Edinburgh
1877 Semple, William, Mouswald Banks, Dumfries	1873 Sime, Peter W., 16 George Street, Edinburgh
1848 Seton, George, Advocate, 42 Greenhill Gardens, Edinburgh	1830 Simpson, Alex. Horatio, late Hayes, Uxbridge
	1860 Simpson, Alex., Smeaton, Dalkeith
	1879 Simpson, Alex., Provost of Inverness, Inverness
	1853 Simpson, George, Bedrule, Jedburgh
	1863 Simpson, George, South Burreldales, Alvah, Banff

Admitted	Admitted
1869 Simpson, George, 2 Lauder Road, Edinburgh	1878 Sloan, James, Coachbuilder, Dumfries
1851 Simpson, James, Mawcarse, Milnathort	1870 Sloan, John, Barnhill, Patna, Ayrshire
1878 Simpson, James, of North Lethams, Kinross	1869 Sloan, William, Brieryside, Monkton, Ayr
1878 Simpson, James, Tower, Alloa	1877 Smail, James, Banker, Galashiels
1875 Simpson, John, South Colmac, Rothesay	1843 Small, David, Writer, Dundee
1876 Simpson, John (Auchinachie & Simpson), Keith	1859 Small, Jas., of Dirnanean, Pitlochry
1839 Simpson, Robert, of Cobairdy, Huntly	1870 Small, John L., of Foodie, St Andrews
1878 Simpson, Thomas, West Byres, Ormiston	1857 Small, Lindsay, Orry's Mount, Ramsey, Isle of Man
1874 Simson, C. S., of Threepwood, 7 Nelson Street, Edinburgh	1864 Smart, James, Liberton Park, Liberton
1861 Simson, George, Courthill, Kelso	1858 Smart, John, late Glasgowe, Blackburn, Aberdeen
1871 Simson, Thos., Skelpie, Cupar	1873 Smeaton, Rev. John, of Coul, Tulliallan Manse, Kincardine, Alloa
1873 SINCLAIR, the Hon. the Master of, 16 Bryanston Square, London, W.	1870 Smellie, Henry, West Edge, Liberton
1859 Sinclair, Arch., late Minard, Inveraray	1857 Smith, Adam, Stevenson Mains, Haddington
1863 Sinclair, David, Loirston, Aberdeen	1877 Smith, Alex., Barnford, Dalrymple, Ayr
1876 Sinclair, James, Cairnbeddie, Balbeggie, Perth	1847 Smith, Alex., C.E., 28 Market Street, Aberdeen
1867 SINCLAIR, Sir J. G. T., of Ulbster, Bart., M.P., Thurso Castle, Thurso	1852 Smith, Alexander (A. & W. Smith & Co.), Westbourne, Govan, Glasgow
1875 Sinclair, John, Achintee, Fort-William	1863 Smith, Alexander, Letham, Berwick
1869 Sinclair, Peter, Kilmartin	1864 Smith, Alexander P., Munlochly Farm, Munlochly
1864 SINCLAIR, Sir Robert C., of Stevenson, Bart., Achvarsdale Lodge, Reay, Thurso	1856 Smith, Andrew, Castle Mains, Douglas
1872 Sinclair, W. S. Thomson, of Freswick, Dunbeath Castle, Caithness	1864 Smith, Andrew, Solicitor, Dingwall
1850 Sivewright, James, The Grove, Torquay	1868 Smith, Andrew, Castle Mains, Gifford
1877 Skead, George, Agent, Wishaw	1874 Smith, Archibald Haddow, 1 India Buildings, Edinburgh
1876 Skeen, George, Mill of Gellan, Aboyne	1853 Smith, Charles, Whittinghame, Prestonkirk
1876 Skeen, John, Commercial Inn, Tarland	1876 Smith, Chas., 36 Howard Street, Glasgow
1831 Skene, William F., W.S., 20 Inverleith Row, Edinburgh	1836 Smith, C. H. Johnstone, late Edinburgh
1823 Skinner, Capt. C. G. Macgregor, late Carisbrooke House, Isle of Wight	1833 Smith, David, W.S., 10 Eton Terrace, Edinburgh
1859 Skinner, James, Woodside, Aberdeen	1876 Smith, D. W. E., Coalston Mains, Haddington
1869 Skinner, W., of Corra, W.S., City Clerk, 35 George Square, Edinburgh	1878 Smith, Edward, Netherholm, Kirkinahoe
1874 Skinner, Wm. M., Drumin, Ballindalloch	1839 Smith, E. B., of Blackwood House, Ecclefechan
1857 Skirving, Adam, of Croys, Dalbeattie	1864 Smith, F. C., Hoprig, Cockburnspath
1850 Skirving, James, Luffness Mains, Drem	1862 Smith, George, 20 Lynedoch Street, Glasgow
1846 Skirving, R. Scot, 29 Drummond Place, Edinburgh	1878 Smith, George G., Broomhills, Lochmaben
1858 Sleigh, John, Land Surveyor, Strichen Mains, Strichen	1872 Smith, G. P., Choicelee, Dunse
1877 Sligo, Archibald Vincent Smith, of Inzievar and Carmyle, 5 Drummond Place, Edinburgh	1853 Smith, Major H., of Cruicksfield, Dunse
1863 Slipper, R. B., late 427 New Cross Road, London, S.E.	1857 Smith, Hugh, 9 Kelvinside Terrace (North), Glasgow
1861 Sloan, D., Coachbuilder, Dumfries	1855 Smith, James, of Olig, Thurso
	1857 Smith, James, Broomhill, Partick

Admitted

- 1867 Smith, Jas., 26 Dundas Street, Edinburgh  
 1869 Smith, James, 11 Dixon Street, Glasgow  
 1869 Smith, J., Mullochard, Ballindalloch  
 1877 Smith, James, Auchlin, Fisherie, Turriff  
 1878 Smith, James, 139 Grassmarket, Edinburgh  
 1872 Smith, Jas. F., Fireburn Mill, Coldstream  
 1873 Smith, James, Pittengardner, For-doun  
 1878 Smith, James T., Parkend, Lock-  
 erbie  
 1861 Smith, John, Advocate, 265 Union  
 Street, Aberdeen  
 1873 Smith, John, Balmaln, Fettercairn  
 1874 Smith, John, Cragganmore, Ballin-  
 dalloch  
 1865 Smith, John, Inverallan House, Gran-  
 town  
 1874 Smith, John, Drumduan, Dess, Aber-  
 deen  
 1862 Smith, J. Gordon, Minmore, Ballin-  
 dalloch  
 1877 Smith, John Guthrie, Mugdock Castle,  
 Milngavie  
 1867 Smith, J. Turnbull, C.A., 29 St Andrew  
 Square, Edinburgh — *Auditor of  
 Accounts to the Society*  
 1878 Smith, Melville B., Broomhills, Loch-  
 maben  
 1872 Smith, Peter, Crooks, Coldstream  
 1864 Smith, Robert, Brentham Park, Stir-  
 ling  
 1877 Smith, Robert, Gamerig, Dumfries  
 1872 Smith, Robt. G., Georgeville, Mid-  
 Calder  
 1864 Smith, R. M., 4 Bellevue Crescent,  
 Edinburgh  
 1874 Smith, Sidney, Mill of Boyndie,  
 Banff  
 1860 Smith, Thomas, Dalfibble, Dumfries  
 1873 Smith, Thomas, Pingle, Middlebie,  
 Dumfriesshire  
 1874 Smith, Thomas, Raitloan, Nairn  
 1870 Smith, Thomas, Ladyland, Dumfries  
 1877 Smith, Thomas, Powrie, Dundee  
 1878 Smith, Thomas F., Dumfries  
 1864 Smith, Wm., Melkington, Cornhill,  
 Northumberland  
 1866 Smith, Wm., West Drums, Brechin  
 1868 Smith, William, Middleton, Balqu-  
 harn, Inverurie  
 1860 Smith, William, Banker, Moniaive  
 1868 Smith, W., Stoue of Morphis, Mon-  
 trose  
 1868 Smith, William, New Mains of Uriø,  
 Stonehaven

Admitted

- 1878 Smith, William, Greenhead, Salton,  
 Tranent  
 1878 Smith, William, Corskelly, Lonmay,  
 Aberdeenshire  
 1878 Smith, William, Craigdhu, Glasserton  
 1878 Smith, William, Baltilly, Ceres  
 1873 Smith, Wm. B., Stoneleigh Villa,  
 Leamington—*Free Life Member*  
 1874 Smithson, Joseph S., General Manager,  
 W. & H. M. Goulding, 25 Eden  
 Quay, Dublin  
 1826 Smollett, A., of Bonhill, Cameron  
 House, Alexandria, N.B.  
 1876 Smythe, David M., yr. of Methven,  
 Perth  
 1846 Smythe, William, of Methven, Perth  
 1857 Snodgrass, Allan, Mollandhu, Cardross  
 1857 Somervail, P., Glendevon, Winch-  
 burgh  
 1857 Somervell, G., of Sorn, Sorn Castle,  
 Mauchline  
 1848 Somerville, J., Birch Villa, Peebles  
 1858 Somerville, James, S.S.C., 23 South  
 Blacket Placo, Edinburgh  
 1867 Somerville, George Purdie, Muirhouse,  
 Carnwath  
 1850 Somerville, Wm., Merchant, Glasgow  
 1850+Southesk, Right Hon. the Earl of,  
 K.T., Kinnaird Castle, Brechin  
 1877 Spalding, Augustus Frederick  
 Montague, of Holme, New Galloway  
 1865 Spears, W. R., writer, Kirkcaldy  
 1879 Speir, Robert, junior, Blairpark, Largs  
 1838 Speirs, T. Dundas, late Burnfoot,  
 Houston  
 1860 Spence, Adam White, Glencairn  
 House, Crieff  
 1876 Spence, John, Howldswick, Unst  
 1875 Spencer, A., 160 Hope Street, Glasgow  
 1863 Spowart, T., of Broomhead, 7 Coates  
 Crescent, Edinburgh  
 1870 Sproat, Robert, Lennox Plunton,  
 Kirkcudbright  
 1878 Sproat, William T., Borness, Kirkcud-  
 bright  
 1830 Sprot, James of Spot, Dunbar  
 1830 Sprot, Mark, of Riddell, Lilliesleaf  
 1826 Sprot, Thomas, W.S., 10 Drummond  
 Place, Edinburgh  
 1836 Stables, W. A., Braeval, Nairn  
 1845+Stair, Right Hon. the Earl of, K.T.,  
 Oxenfoord Castle, Dalkeith  
 1864 Starforth, John, Architect, 37 York  
 Place, Edinburgh  
 1858 Stark, Andrew, Wester Bogie, Kirk-  
 caldy  
 1875 Stark, Matthew C., Manse, Gargun-  
 nock  
 1862 Stark, Ralph, of Summerford, Camelon,  
 Falkirk

Admitted	Admitted
1870 Stark, Robert, Kirkcaldy	1853 Stevenson, David, F.R.S.E., Member of the Institution of Civil Engineers, 84 George Street, Edinburgh— <i>Consulting Engineer to the Society</i>
1861 Stark, W., Williamston, Mid-Calder	1853 Stevenson, John B., New Zealand
1869 Statter, Thomas, jun., Stand Hall, Whitefield, Manchester	1864 Stevenson, John, Changue, Cumnock
1872 Stavert, Archd., of Hoscote, 18 Royal Terrace, Edinburgh	1860 Stevenson, Robert, late Banker, Edinburgh
1851 Stedman, James, Boundary Bank, Jedburgh	1852 Stevenson, Thomas, Mount-Lothian, Penicuik
1862 Steedman, J., late Charleston, Dunfermline	1877 Stevenson, William, Holland, Stronsay, Kirkwall
1870 Steel, Captain Gavin, Balintore, Kirriemuir	1876 Stevenson, William, of Viewfield, Aberdeen
1871 Steel, Gavin, of Hill Park, 5 Queen Street, Glasgow	1872 Stevenson, Wm., Lochgrog, Bishopbriggs
1878 Steel, Thomas Gibson, Gladenholm, Parkgate, Dumfries	1860 Stewart, Alexander, Perth
1853 Steele, Robert, Greenock	1879 Stewart, Rev. Alex. M'Farlane, Amulree, Dunkeld
1828 Steele, William, Sheriff-Substitute of Dumbarton	1871 STEWART, Sir A. Douglas of Grandtully, Bart., Perth
1874 Steell, Gourlay, R.S.A., 4 Palmerston Place, Edinburgh— <i>Animal Portrait Painter to the Society</i> .	1874 Stewart, Archibald, of Ensay, Obbe, Harris
1854 Stegmann, Courad, late Merchant, Leith	1858 Stewart, Charles, Tighnduin, Killin
1879 Stein, John, Broomhouse, Dunbar	1842 Stewart, David, London
1850 Stenhouse, James, Southfield, Corstorphine	1869 Stewart, David W., of Grange, Lock- erbie
1861 Stenhouse, James, Turnhouse, Cra- mond Bridge	1870 Stewart, Donald, Chapel Park, Kin- gussie
1876 Stenhouse, James S., of Northfod, Dunfermline	1859 Stewart, Donald, Bruar, Blair Athole
1858 Stephen, James, Conglass, Inverurie	1870 Stewart, Duncan, Mosspeeble, Ewes, Langholm
1879 Stephenson, J. B., Forteviot	1877 Stewart, Duncan, Loak, Bankfoot, Perthshire
1874 Stephenson, Richard, Chapel, Dunse	1877 Stewart, Duncan, Bank of Scotland, Callander
1845 Steuart, Andrew, of Auchlunkart, Keith	1863 Stewart, Commander Duncan, R.N., New Club, Edinburgh
1857 Steuart, D., of Steuart Hall, Stirling, Herongate, Brentwood, Essex	1844 Stewart, G., Kirkchrist, Kirkcud- bright
1879 Steuart, D. K., factor, Dupplin, Estate Office, Aberdalgie, Perth	1838 Stewart, H. B., of Balnakeilly, Pit- lochry
1835 STEUART, Sir Henry J. Seton, of Allanton, Bart., Touch, Stirling	1857 Stewart, H. G. Murray, of Broughton, Cally, Gatehouse
1876 Steuart, H. J. Gow, Fowler's Park, Hawkhurst, Kent	1871 Stewart, James, Blairfettie, Blair- Athole
1842 Steuart, James, W.S., 8 Doune Terrace, Edinburgh	1876 Stewart, James, Butcher, Coupar- Angus
1864 Steuart, James, junior, Dalkeith Park, Dalkeith	1851 Stewart, J., Pitskelly, St Martins, Perth
1823 Steuart, John, of Dalguise, Dunkeld	1858 Stewart, James, Heathfield, Irvine
1859 Steuart, Patrick, Middlegill, Moffat	1857 Stewart, James, Rossland, Bishopton
1864 Steuart, Captain Robert, of Westwood, West Calder	1879 Stewart, James, Chamberlain's Clerk, Branxholme, Hawick
1855 Steuart, Robert, Dundale, Gravesend, Kent	1869 Stewart, James W., C.E., 39 York Place, Edinburgh
1833 Steuart, William, London	1873 Stewart, John, Bochart, Callander
1839 Stevenson, Alexander, Banker, Lang- holm	1854 Stewart, John, Burnside, Strathaven
1875 Stevenson, Alex. Shannan, Tyne- mouth, Northumberland	1855 Stewart, John, Upper Ardrosscadale, Rothesay
1855 Stevenson, Andrew, Halls, Dunbar	

Admitted

- 1852 Stewart, John, Duntulm, Portree  
 1878 Stewart, John, Manager Home Farm, Ballindalloch  
 1879 Stewart, John, Land Steward, Glamis Castle, Glamis  
 1871 Stewart, Captain John C., of Fasna-cloich, Appin  
 1853 Stewart, John Archd. Shaw, 13 Queen's Gate, London  
 1869 Stewart, Mark John, of Southwick, M.P., Ardwell, Wigtownshire  
 1848 STEWART, Sir M. R. Shaw, of Black-hall, Bart., Greenock  
 1863 Stewart, Neil P., Vaynol, Bangor, North Wales  
 1859 Stewart, Osmond de Haviland, Water-head, Lockerbie  
 1860 Stewart, Peter, Dornoch Mains, Annan  
 1858 Stewart, Robert, of Ingliston, Ratho  
 1871 Stewart, Major Robert, of Ardvoirlich, Lochearnhead  
 1873 Stewart, Robert, Kippenross, Dun-blane  
 1846 Stewart, Robert H. Johnstone, of Phys-gil, Glasserton, Whithorn  
 1857 Stewart, Samuel, Sandhole, Fraser-burgh  
 1850 Stewart, William, Tonreoch, Campbel-town  
 1857 Stewart, William, 24 Maclean Street, Plantation, Glasgow  
 1860 Stewart, William, Saddler, Aberfeldy  
 1872 Stewart, William, Octofad, Port Char-lotte, Islay  
 1878 Stewart, William, of Shambellie, Dum-fries  
 1877 Stirling, Andrew, of Muiravonside, Linlithgow  
 1868 STIRLING, Sir C.-E. F., of Glorat, Bart., Milton of Campsie  
 1864 Stirling, Captain Gilbert, Royal Horse Guards, London  
 1857 Stirling, Major Graham, of Craigharnet, Lennoxtown  
 1867 Stirling, James, of Garden, Kippen, Stirling  
 1833 Stirling, John, of Kippendavie, Dun-blane  
 1865 Stirling, Lieut.-Colonel John S., of Gargunnoch, Stirling  
 1839 Stirling, T. Graham, of Strowan, Crieff  
 1855 Stirling, William, of Tarduff, Linlith-gow  
 1876 Sturton, Andrew, Mill of Cluny, Blair-gowrie  
 1867 Stobo, Andrew, Porterstown, Thorn-hill  
 1860 Stobo, Robert, of Hallidayhill, Auld-girth, Dumfries  
 1855 Stodart, David, Banker, Lanark

Admitted

- 1875 Stodart, George, Netherton, Newton Mearns, Renfrewshire  
 1851 Stodart, John, Cawder Cuilt, Fern, Maryhill  
 1871 Stodart, John, Shettleston, Glasgow  
 1878 Stodart, J. A., Blairmore, Greenock  
 1855 Stodart, William, Wintonhill, Tranent  
 1861 STORMONT, Right Hon. Viscount, Scone Palace, Perth  
 1869 Stordy, Robert, St Leonard's Hill, Edinburgh  
 1832 Stott, Gibson, 27 Victoria Street, Westminster, London  
 1874 Strachan, Andrew, Saphock, Old Mel-drum  
 1878 Strachan, Charles, Tillyorn, Tarland  
 1876 Strachan, George, Inverebrie Mains, Ellon  
 1858 Strachan, James, Wester Fowlis, Alford  
 1858 Strachan, Lewis, Cluny of Raemoir, Banchory  
 1857 Strang, J., High Crewburn, Strathaven  
 1847†STRATHALLAN, Right Hon. Viscount  
 1878 Strathern, Robert, W.S., 12 South Charlotte Street, Edinburgh  
 1867†STRATHMORE, Right Hon. the Earl of, Glamis Castle, Glamis  
 1874 Stratton, David, 13 Middleby Street, Edinburgh  
 1829 Strong, Thomas, W.S., 2 Grosvenor Street, Edinburgh  
 1878 Struthers, William, Logan Mains, Canonbie  
 1863 Stuart, Alexander C., of Eaglescairnie, Haddington  
 1865 Stuart, Alexander, of Laithers, Turriff  
 1873 Stuart, Charles, Tomindugle, Knock-ando, Craigellachie  
 1868 Stuart, Henry, Montford, Rothesay  
 1849†SUTHERLAND, His Grace the Duke of, K.G., Stafford House, London  
 1876 Sutherland, Alexander, Rampyards, Watten, Golspie—*Free Life Member*  
 1853 Sutherland, Eric, Rosevalley, Elgin  
 1849 Sutherland, George, of Forse, 1 Wilton Terrace, Merchiston, Edinburgh  
 1871 Sutherland, George, The Peel, Tibber-muir, Perth  
 1865 Sutherland, James B. (of Lanehead, Dunscore), S.S.C., 10 Windsor Street, Edinburgh  
 1852 Sutherland, S., Springvale, Sheffield  
 1865 Sutherland-Walker, E. C., of Skibo, Skibo Castle, Sutherland  
 1877 Sutor, James, The Collie, Fochabers  
 1858 Swan, James, Live Stock Agent, 37 Lauriston Place, Edinburgh  
 1869 Swan, James, Inverpeffer, Carnoustie  
 1865 Swan, P. D., Provost of Kirkcaldy  
 1852 Swan, Robert, Writer, Kelso

## Admitted

- 1863 Swan, Samuel, Bush, Jedburgh  
 1858 Swan, Thomas, Live Stock Agent, 37 Lauriston Place, Edinburgh  
 1871 Swan, William, Moat Mill, Dundee  
 1861 Swann, James, Collierhall, Douglas  
 1859 Swann, J. R., Dunedin, Otago  
 1865 Swanwick, R., Royal Agricultural College Farm, Cirencester  
 1857 Swinburn, Capt., R.N., of Eilan Shona, Strontian  
 1841 Swinton, Archibald Campbell, of Kimmerghame, Dunse  
 1862 Swinton, P. Burn, Holyn Bank, Gifford  
 1853 Sydsenff, Thomas Buchan, of Ruchlaw, Prestonkirk  
 1874 Syme, David, Manager of The Lawson Seed and Nursery Co., Limited, 1 George IV. Bridge, Edinburgh  
 1875 Syme, James, Millbank, Edinburgh  
 1857 Syme, William, Craigie, Leuchars, Fife  
 1868 Symington, G. C., Kirkcasswell, Kirkcudbright  
 1876 Symington, James, Auctioneer, Lanark  
 1848 Symington, T., late Eastside, Penicuik  
 1868 Symington, Gilbert, Glenluce  
 1845 Tait, Alexander D., of Milrig, Kilmar-nock  
 1874 Tait, George, Veterinary Surgeon, Elgin  
 1875 Tait, George, jun., V.S., Elgin  
 1879 Tait, Henry, The Prince Consorts Shaw Farm, Windsor  
 1846 Tait, James, Banker, Kelso  
 1872 Tait, James, 15 Merchiston Terrace, Edinburgh  
 1876 Tait, John, Crichtie, Inverurie  
 1842 Tait, Joseph, of Haughland, Elgin  
 1863 Tait, William, Vencheon, Kelso  
 1862 Tait, William Reid, Mina Villa, Thurso  
 1878 Talbert, Peter, Gleniericht, Blairgowrie  
 1862 Tawse, John, W.S., 11 Royal Terrace, Edinburgh  
 1859 Tawse, John Wardrope, W.S., 49 Queen Street, Edinburgh  
 1858 Tayler, W. J., of Glenbarry, Rothie-may House, Huntly  
 1877 Tayleur, Edward, of Dalskaith, Dumfries  
 1863 Taylor, Alexander, Hillhouse, Lauder  
 1858 Taylor, Geo., of Kirktonhill, Montrose  
 1876 Taylor, Hugh, Kamishill, Hurlford, Kilmarnock  
 1873 Taylor, James, Land Steward, Buchanan, Drymen  
 1876 Taylor, James, Land Steward, Pitfour, Mintlaw

## Admitted

- 1858 Taylor, John B., Seton West Mains, Prestonpans  
 1861 Taylor, John, Redcastle, Arbroath  
 1870 Taylor, Joseph, Potholm, Langholm  
 1853 Taylor, M., Letter Farm, Cove, Greenock  
 1857 Taylor, R., late Laggan, Campbeltown  
 1857 Taylor, Robert, Dumfrenny, Ban-chory  
 1877 Taylor, Robt., Solicitor, Secretary, Stirlingshire Agricultural Society  
 1872 Taylor, Thos., Seed Merchant, Dal-keith  
 1857 Templeton, Robert, Rannachan, Camp-beltown  
 1853 Tennant, C., of the Glen, Inner-leithen  
 1872 Tennant, T., of Priestgill, Strathaven  
 1876 Tennant, Thomas, Walston, Peni-cuik  
 1876 Tennant, William John, Gallin Cot-tage, Aberfeldy  
 1873 Terris, James, jun., Dullomuir, Blair Adam  
 1877 Thom, Alex., Chapelhill, Peebles  
 1871 Thom, James, Leden Urquhart, Strathmiglo  
 1858 Thom, James C., Quithelhead, Durris, Aberdeen  
 1875 Thom, James, Wellsgreen, East Wemyss, Fifeshire  
 1879 Thom, Robert Dick, Wellsgreen, East Wemyss  
 1871 Thom, William, Demperston, Auch-termuchty  
 1855 Thomas, James, Forthar, Kettle, Lady-bank  
 1861 Thomas, Robert, of Noranside, Forfar  
 1872 Thomas, William, of Pinnacle, Ancrum, Jedburgh  
 1871 Thompson, Alex. Barmeil, Port William  
 1878 Thompson, Alex., Ironmonger, Dum-fries  
 1845 Thompson, Andrew, Berwick-on-Tweed  
 1878 Thompson, Geo., of Pitmedden, Dyce, Aberdeen  
 1867 Thompson, Henry, of High Green, Ramshope, Otterburn  
 1872 Thompson, John, Baillieknowe, Kelso  
 1874 Thoms, Geo. Hunter, yr., of Aberlemno, Advocate, Sheriff of Caithness, Orkney, and Shetland, 52 Great King Street, Edinburgh  
 1861 Thoms, Patrick Hunter, of Aberlemno, Dundee  
 1825 Thomson, Alexander, Banker, Greenock  
 1867 Thomson, A., of Mainhill, St Boswell's  
 1873 Thomson, Alex., Mains, Tillicoultry

Admitted

- 1878 Thomson, Alex. M., Secretary Angus Agricultural Society, Arbroath  
 1867 Thomson, Charles W., C.A., 16 Lennox Street, Edinburgh  
 1869 Thomson, Duncan M. (late Stirling), Chicago  
 1854 Thomson, George, Arkland, Canaan Lane, Edinburgh  
 1863 Thomson, George, Hopton, Ancrum, Jedburgh  
 1855 Thomson, James, Mungoswalls, Dunse  
 1858 Thomson, James, Holmes, Broxburn  
 1861 Thomson, J., Belmont, Dumfries  
 1868 Thomson, Jas., Newseat of Dumbreck, Udny  
 1874 Thomson, John, Avonhead, Airdrie  
 1869 Thomson, John, Blaiket, Crockettford, Dumfries  
 1877 Thomson, John, Carronflats, Grangemouth  
 1869 Thomson, John, 49 Hope Street, Glasgow  
 1875 Thomson, John, Prospect Bank, Cathcart  
 1877 Thomson, Rev. John, of Rosalee, Hawick  
 1848 Thomson, John Anstruther, of Charlton, Colinsburgh  
 1867 Thomson, John Comrie, Sheriff-Substitute of Aberdeen and Kincardine  
 1874 Thomson, J. Grant, Wood Manager, Grantown, Strathspey  
 1869 Thomson, J. S., McCheynston, Dumfries  
 1870 Thomson, Lockhart, S.S.C., 16 Hill Street, Edinburgh  
 1873 Thomson, Mitchell, 12 Queen Street, Edinburgh  
 1869 Thomson, Peter, Cowcoch, Abergole, North Wales  
 1874 Thomson, Robert, Burnbank, Blair-Drummond  
 1878 Thomson, Robert, McCheyston, Dunscore, Dumfries  
 1875 Thomson, Thomas, Bankhead, Alloa  
 1850 Thomson, Thomas, Merchant, Glasgow  
 1854 Thomson, W., 10 Stafford Street, Edinburgh  
 1876 Thomson, William J. F., Gunmaker, 3 Hanover Street, Edinburgh  
 1873 Thomson, William, Nyaad, Stirling  
 1875 Thomson, Wm., Aberdeen Town and County Bank, Tarland  
 1878 Thomson, William, M'Murdieston, Dunscore, Dumfries  
 1872 Thomson, W. A., Oil Cake Mills, Leith  
 1875 Thomson, William G., 56 Hope Street, Glasgow

Admitted

- 1841 Thomson, William Thomas, 3 George Street, Edinburgh  
 1859 Thorburn, David, Calgary, Tobermory  
 1877 Thorburn, Robert, Stonehill, Lanark  
 1869 Thornton, James, Crofthead, Fauldhouse  
 1872 Thornton, Thomas, Crofthead, Fauldhouse  
 1824 THRIEPLAND, Sir P. M., of Fingask, Bart., Errol  
 1872 Thyne, John, 21 Danube Street, Edinburgh  
 1859 Thyne, William, Hoprig Mains, Tranent  
 1844 Timins, William, late of Hillfield, Stanmore, Middlesex  
 1869 Tinning, John, Chillesford Lodge, Sudbourne Hall, Wickham Market, Suffolk  
 1859 Tod, Alexander, Aitkendean, Lasswade  
 1872 Tod, George, Bankhead, Cairneyhill, Dunfermline  
 1870 Tod, James, Glenkill, Lamlash  
 1877 Tod, James, Easter Cash, Strathmiglo  
 1869 Tod, James Carstairs, Gorgie Mains, Edinburgh  
 1870 Tod, John W., W.S., 66 Queen Street, Edinburgh  
 1864 Tod, Captain R. A. B., of Howden, Mid-Calder  
 1870 Tod, Thos. M., West Bruckly, Kinross  
 1851 Tod, William, Gospetry, Milnathort  
 1864 Tod, William, Glenree, Lamlash, Arran  
 1878 Todd, Alexander, Mouswald Grange, Dumfries  
 1876 Todd, David, 18 St Patrick Square, Edinburgh  
 1876 Todd, Gavin J., Kinellar Lodge, Aberdeen  
 1858 Todd, James, Gillespie, Glenluce  
 1865 Todd, James, Castle Mains, Dirleton, Drem  
 1869 Todd, William, Auchness, Ardwell  
 1878 Todd, William, Bulsier, Sorby, Gartlieston  
 1865 Tolmie, Alex., Ballisparden, Fort George Station  
 1871 Torrance, Archibald P., Kippielaw Dalkeith  
 1868 Torrance, George, Sisterpath, Dunse  
 1877 Torrance, Thomas A., Burnhouse Villa, Camps, Kirknewton  
 1863 Torrance, T., Laws, Chirnside  
 1872 Torrance, William, Camps Lime Works, Mid-Calder



**Admitted**

- 1873 Torry, Adam Ogilvie, St Anne's,  
Coupar Angus—*Free Life Member*  
1877 Tough, James, Mains of Drum, Drum-  
oak, Aberdeen  
1877 Traill, Adam C., Bonnington Road,  
Leith  
1876 Traill, Thomas, of Holland, Kirkwall  
1846 Traquair, Ramsay H., Colinton, Slate-  
ford  
1857 Trench, Henry, of Cangort Park, Ros-  
crea, Ireland  
1841 Trotter, Charles, of Woodhill, Blair-  
gowrie  
1865 Trotter, Coutts, 11 Melville Street,  
Edinburgh  
1865 Trotter, Lieut.-Colonel H., of Morton  
Hall, Edinburgh  
1829 Trotter, Robert Knox, of Ballindean  
1875 Trotter, Robert, Garguston, Beaully  
1866 Trotter, T. C., 54 Park Street, Gros-  
venor Square, London, W.  
1869 Trotter, Lieut.-Colonel H., of the  
Bush, Edinburgh  
1875 Troup, Alex., Strathmiglo  
1860 Tudhope, G., 62 Pollock Street, Glas-  
gow  
1878 Tuke, Dr J. Batty, Saughtonhall,  
Edinburgh  
1873 Tulloch, James, Dales, Inverkeithing  
1875 Tulloch, John, Midmains, Duffus,  
Elgin  
1844 Turnbull, Alexander, Thornington,  
Coldstream  
1877 Turnbull, Archibald, Eldinhope, Yar-  
row, Selkirk  
1874 Turnbull, David, W.S., 12 Belgrave  
Crescent, Edinburgh  
1878 Turnbull, David, of Brieryards, Haw-  
wick  
1857 Turnbull, Gregor, Merchant, Glasgow  
1863 Turnbull, James, Lempitlaw, Eastfield,  
Kelso  
1877 Turnbull, James, St Colme House,  
Aberdour, Fife  
1844 Turnbull, John, of Abbey St Bathans,  
W.S., 49 George Square, Edin-  
burgh  
1863 Turnbull, John, East Middle, Hawick  
1862 Turnbull, Mark, Melrose Mills, Melrose  
1869 Turnbull, P., Little Pinkerton, Dunbar  
1877 Turnbull, Peter M., Smithston, Rhynie  
1860 Turnbull, S., Bonhill Place, Renton  
1878 Turnbull, Thomas, Castlebank Mills,  
Dumfries  
1877 Turnbull, Walter, Tynemont, Ormiston  
1863 Turnbull, William J., Graden, Kelso  
1872 Turnbull, William, Goukshill, Gore-  
bridge  
1863 Turnbull, William George, Spittal,  
Jedburgh

**Admitted**

- 1875 Turner, Archd., jun., Drumdrishuig,  
Ardishaig  
1853 Turner, D., Corachaive, Sandbank  
1869 Turner, Frederick J., the Dean, Kil-  
marnock  
1853 Turner, John, of Turner Hall, Ellon  
1873 Turner, Peter, Mannerston, Linlithgow  
1856 Turner, Richard, Broompark, Mid-  
Calder  
1876 Turner, Robert, Auchnarrow, Ballin-  
dalloch  
1863 Turner, W., Mains House, Linlithgow  
1868 Turner, William, M.B., Professor of  
Anatomy, University of Edinburgh,  
6 Eton Terrace  
1869 Tweeddale, George, Gilmerton, St  
Andrews  
1859 Tweedie, Alexander, Coats, Had-  
dington  
1873 Tweedie, Alexander Gladstone, Gles-  
pin, Douglas, Lanarkshire  
1860 Tweedie, James, of Quarter, Rachan  
House, Biggar  
1875 Tweedie, James, Deuchrie, Prestonkirk  
1871 Tweedie, Richard, The Forest, Cat-  
terick  
1878 Twentyman, John Murthwaite, Blen-  
nerhasset, Aspatria, Carlisle  
1863 Tytler, James Stuart, of Woodhouse-  
lee, W.S., 36 Melville Street, Edin-  
burgh  
1864 Tytler, Charles E. F., of Sanquhar,  
Forres  
1873 Udney, John Henry Fullarton, of Udney  
and Dudwick, Udney, Aberdeen  
1877 Underwood, Peter, Ardnacross, Aros,  
Mull  
1877 Unito, John, 291 Edgware Road,  
London, W.  
1864 Urquhart, B. C., of Meldrum, Old Mel-  
drum  
1876 Urquhart, Lieut. F. Pollard, of Craigs-  
ton, Turriff  
1858 Urquhart, J. G., of Vellore, Linlithgow  
1875 Urquhart, John, Dundonnell, Ullapool  
1875 Ure, George, Wheatlands, Denny  
1875 Ure, George R., Hope Park, Bonny-  
bridge  
1873 Ure, John, Westwood, Drip, Stirling  
1874 Ure, William, Bogton, Larbert  
1864 Ure, William, Crawfordston, Kippen  
1853 Usher, John, Stodrig, Kelso  
1872 Usher, J., jun., Gatehousecote, Hawick  
1872 Usher, Thos., jun., Courthill, Hawick  
1878 Vallance, Hugh F., 30 Upper Gray  
Street, Edinburgh  
1876 Vallentine, George, Arnhall, Brechin  
1858 Vallentine, J., Nether Afflock, Dunecht

Admitted

- 1877 VANE, Sir Henry Ralph, of Hutton in the Forest, Bart., Penrith  
 1860 Vassal, Lieut.-Gen. R., London  
 1878 Veitch, Andrew, Girthon Kirk, Gatehouse-on-Fleet  
 1864 Veitch, Chris., 49 York Place, Edinr.  
 1867 Veitch, Walter, Grange, Kinghorn  
 1856 Vere, C. E. Hope, late Ledard, Aberfoyle  
 1867 VERNON, Hon. Greville R., Auchans House, Kilmarnock  
 1878 Villiers, Frederick Ernest, Closeburn Hall, Thornhill  
 1878 Vivers, William, Dornock Town, Annan  
 1874 Waddell, A. Peddie, 4 Great Stuart Street, Edinburgh  
 1874 Waddell, James, Airdrie Hill, New Monkland  
 1872 Waddell, John, of Easter Inch, 10 St Andrew Square, Edinburgh  
 1869 Waddell, John, Southrigg, Bathgate  
 1869 Waddell, William, Netherton, Whitburn  
 1857 Wakefield, J. Collen, late Eastwood Thornliebank  
 1857 Wakelin, John, Oil Mills, Musselburgh  
 1877 Walcot, John (G. McCallum & Co.), 13 Greenside Place, Edinburgh  
 1873 Walker, Alexander, of Findynate, Ballinluig  
 1870 Walker, Alexander, Stagebank, Heriot  
 1872 Walker, Alexander John (Bowland), 3 Manor Place, Edinburgh  
 1878 Walker, Archd., Banker, Auchtermuchty  
 1847 Walker, Charles (late Drumblair), Australia  
 1861 Walker, Fountaine, of Ness Castle, Inverness  
 1857 Walker, Francis, Craignetherty, Turriff  
 1868 Walker, Lieut.-Col. George G., of Crawfordton, Thornhill  
 1875 Walker, George A., Novar Mains, Evanton  
 1868 Walker, G. J. (Walker & Beattie, Land Surveyors, Aberdeen), Portlethen, Aberdeen  
 1861 Walker, Henry West, Banker, Auchtermuchty  
 1860 Walker, James of Dalry, 10 Grosvenor Crescent, Edinburgh  
 1847 Walker, James, of Blairton  
 1854 Walker, James, Kilpunt, Broxburn  
 1867 Walker, Jas., Brough, Westray, Kirkwall  
 1869 Walker, James, Dauphin House, St Andrews

Admitted

- 1877 Walker, James, West Side of Brux, Kildrummy, Aberdeen  
 1848 Walker, John, W.S., 31 Buckingham Terrace, Edinburgh  
 1857 Walker, John, late Eastfield, Springburn  
 1862 Walker, John, 1 Polwarth Terrace, Edinburgh  
 1865 Walker, John (late of Ardpeaton), Australia  
 1872 Walker, J. P. S., late at Mountrich, Kinkell, Dingwall  
 1858 Walker, Robert, Montbletton, Banff  
 1854 Walker, Robert, Leuchars House, Elgin  
 1859 Walker, Robert, Altyre, Forres  
 1861 Walker, Robert, Muirhall, Perth  
 1875 Walker, Robert B., Mains of Portlethen, Aberdeen  
 1875 Walker, Thomas, Lochton, Inchtute  
 1861 Walker, Thomas R., Cupar-Fife  
 1859 Walker, W., South Quarter, Kingsbarns  
 1858 Walker, Wm., Ardhuncart, Mossat  
 1864 Walker, William, Kintrae, Elgin  
 1872 Walker, William, Horse Dealer, Stirling  
 1835 Walker, William S., of Bowland, C.B., 125 George Street, Edinburgh—*Treasurer of the Society.*  
 1868 Walker, William Campbell, yr. of Bowland  
 1873 Wall, George Y., Durham—*Free Life Member*  
 1878 Wallace, Alex., Pitglassie, Dingwall  
 1878 Wallace, Henry Ritchie Cooper, of Busbie and Cloncaird, Ayrshire, 21 Magdala Crescent, Edinburgh  
 1861 Wallace, James, Brake, Denino, Fife  
 1861 Wallace, John, late Illieston, Broxburn  
 1875 Wallace, John, 30 Oak Street, Glasgow  
 1879 Wallace, J., Foundry, Castle Douglas  
 1875 Wallace, Robert, Auchinbrain, Mauchline  
 1854 Wallace, Robert A., Rhynd, Dunfermlie  
 1870 Wallace, R., Langbarns, Kirkcudbright  
 1878 Wallace, Robert, Auchinbrack, Tynron, Thornhill—*Free Life Member*  
 1879 Wallace, R., Foundry, Castle Douglas  
 1879 Wallace, William (John Wallace & Sons), Graham Square, Glasgow  
 1844 Wallace, Wm., of Auchinvoile, Kilsyth  
 1875 Wallace, William, Kinnear, Kilmany, Cupar-Fife

## Admitted

- 1871 Wallace, William, of Newton of Collessie, Ladybank  
 1877 Walls, James, Lochran, Kinross  
 1854 Wallbank, Jonas, Berwick-upon-Tweed  
 1872 Walley, Thos., M.R.C.V.S., Principal of the Veterinary College, Edinburgh, —*Professor of Cattle Pathology to the Society*  
 1873 Walls, Robt., Kerse Mills, Stirling  
 1845 WALPOLE, The Hon. Henry, Wolterton Park, Aylsham, Norfolk  
 1873 Walton, George Kent, Long Campton, Shipston-on-Stour, Warwickshire—*Free Life Member*  
 1869 Wardrop, W. M., Williamfield, Portobello  
 1874 Wardrope, Robert, Garlaff, Cumnock  
 1852 Warnock, A., Bearyards, Bishopbriggs  
 1862 Warrack, William, Newmill of Fintray, Aberdeen  
 1868 Warrand, Captain A. J. C., Ryefield, Ferrintosh, Dingwall  
 1858 WARRENDER, Sir G., of Lochend, Bart., Brunsfield House, Edinburgh  
 1879 Warwick, A., Outer Woodhead, Canonbie  
 1856 Warwick, W., Glencartholm, Canonbie  
 1871 Waters, George S., Tistermaines, Halkirkroad  
 1837 Waterston, Charles, Banker, Inverness  
 1869 Watherston, James, 29 Queensferry Street, Edinburgh  
 1869 Watherston, Wm., 29 Queensferry Street, Edinburgh  
 1875 Watson, Arthur, Easter Busby Farm Busby, Glasgow  
 1855 Watson, Crawford, late The Lone, Tenbury, Worcestershire  
 1859 Watson, Douglas (late Thurster, Wick), New Zealand  
 1876 Watson, George, Edendiack, Gartly  
 1846 Watson, George, of Norton, Ratho  
 1870 Watson, Geo., late Fushiebrae, Gorebridge  
 1841 Watson, Henry George, C.A., 123 George Street, Edinburgh  
 1875 Watson, Hugh, Cuil, Cairndow  
 1878 Watson, James Graham, 45 Charlotte Square, Edinburgh  
 1870 Watson, Jas. M., 2 Fingal Place, Edinburgh  
 1869 Watson, John Paton, of Blackford, Rothie-Norman  
 1857 Watson, John, of Earnock, Hamilton  
 1864 Watson, John, Culterallars, Biggar  
 1877 Watson, John, Skipperton, Denny  
 1872 Watson, Patrick, Friarstown House, Tallaugh, County Dublin

## Admitted

- 1852 Watson, Wm., (late The Binns), Junction City, Kansas, U.S.  
 1841 Watson, William, Seaside, Errol  
 1863 Watson, W. S., of Burnhead, Bucklands, Hawick  
 1878 Watt, Alex., Balbarton, Kirkcaldy  
 1871 Watt, George, Kilmany, Cupar-Fife  
 1868 Watt, Gordon, Mains of Park, Drumoak  
 1864 Watt, James, Balbarton, Kirkcaldy  
 1875 Watt, James, Garbity, Orton, Fochabers  
 1878 Watt, James (Little & Ballantyne), Knowfield, Carlisle  
 1875 Watt, Robert, solicitor, Airdrie  
 1878 Watt, W. G. T., Kierfield House, Stromness  
 1872 Wauchope, Capt., of Niddrie Marischall, Liberton  
 1842 WAUCHOPE, Sir John Don, of Edmonstone, Bart., Edmonstone House, Liberton  
 1871 Waugh, Allan, Avonbridge, Falkirk  
 1857 Waugh, J., of St John's Kirk, Biggar  
 1875 Waugh, John, jun., Glenormiston, Innerleithen  
 1873 Waugh, John, Langshaw, Galashiels  
 1875 Waugh, William, V.S., Stirling  
 1877 Weatherhead, Wm., Bogangreen Coldingham  
 1863 Webster, J., New Horndean, Berwick  
 1870 Webster, Robt., Airds of Kells, New Galloway Station  
 1856 Webster, R., Lorne Place, Leith Walk  
 1863 Weddell, John Wilkie, Lauder Barns, Lauder  
 1874 Wedderburn, Henry Scrymgeour, of Wedderburn, Birkhill, Cupar-Fife  
 1870 Weir, Alex., Newhousemill, East Kilbride  
 1877 Weir, James, Sandilands, Lanark  
 1875 Weir, John, Grain Merchant, Coatbridge  
 1864 Weir, Robert, Sandilands Cottage, Lanark  
 1873 Weir, William, Inches, Falkirk  
 1868 Weir, William, Portland Iron Works, Kilmarnock  
 1850 Welsh, Alexander, Edinburgh  
 1869 Welsh, Henry, 6 George Street, Edinburgh  
 1860 Welsh, John, Kirkton, Hawick  
 1858 Welsh, Thomas, of Earlsaugh Ericstane, Moffat  
 1842 Wellwood, Alan A. Maconochie, of Garvoch, Meadowbank, Kirknewton  
 1819† WEMYSS and MARCH, Right Hon. The Earl of, Gosford, Haddington  
 1872 Wemyss, R. G. E., of Wemyss, Kirkcaldy  
 1868 WHARNCLIFFE, Right Hon. Lord, 16 Curzon Street, London

Admitted

- 1868 White, A., Causeway Bank, Chirnside  
 1862 White, Francis, M.D., Perth  
 1863 White, James, of Overton, Dumbarton  
 1876 White, James, Stagehall, Stow  
 1842 White, John, of Drumelzier, Netherurd House, Dolphinton  
 1868 White, John, of Grougar, 53 Princes' Gate, London  
 1878 White, John, Ardencaple, Helensburgh  
 1872 White, John A., Shiells Mains, Biggar  
 1868 White, J. F., Grain Merchant, Aberdeen  
 1888 White, Peter, Accountant, Glasgow  
 1842 White, Robert, W.S., 23 Drummond Place, Edinburgh  
 1876 White, Robert, 26 George Street, Edinburgh  
 1872 White, Robert, Outerston, Gorebridge  
 1888 White, William, Merchant, Glasgow  
 1864 White, Wm., Mousebank, Lanark  
 1872 White, Wm., Lennel Hill, Coldstream  
 1869 Whitelaw, Alex., M.P., of Gartshore, Gartsherrie House, Coatbridge  
 1850 Whittet, Geo., Easter Drylaw, Davidson's Mains  
 1861 Whitton, Andrew, of Couston, Newtyle  
 1871 Whyte, Angus, Easdale, Oban  
 1870 Whyte, Archd., jun., Cotton of Craigs, Alyth  
 1876 Whyte, Duncan, 326 Duke St, Glasgow  
 1876 Whyte, D. C., Ballimore, Lochstrivenhead, Sandbank  
 1865 Whyte, James, Aldbro, Darlington  
 1870 Whyte, James A., Kirkmabreck, Stranraer  
 1863 Whyte, John, Ballochyle, Sandbank  
 1871 Whyte, John, West Dunoon, Meigle  
 1875 Whyte, John, Lündin Mill, Largo  
 1860 Whyte, Rev. R., Dryfesdale, Lockerbie  
 1868 Whyte, William, Spott, Kirriemuir  
 1870 Wight, Alex., Ironmonger, Forres  
 1865 Wight, Geo., 14 Duke Street, Edinburgh  
 1872 Wight, R. B., Wester Melville, Lasswade  
 1878 Wight, Thomas, Pilmuir, Lauder  
 1827 Wightman, James Seton, of Courance, 7 Darnaway Street, Edinburgh  
 1878 Wightman, James C. Seton, Courance, 7 Darnaway Street, Edinburgh  
 1869 Wightman, John Seton, yr. of Courance, 7 Darnaway Street, Edinburgh  
 1878 Wilken, George, Waterside of Forbes, Alford  
 1848 Wilkie, D., of Auchlishie, Kirriemuir  
 1867 Wilkie, George, Cowdenlaws, Dysart  
 1880 Wilkie, John, of Foulden, Berwick

Admitted

- 1879 Wilkin, Robert, Christ's Church, New Zealand  
 1862 Wilkin, T., Tinwald Downs, Dumfries  
 1873 Will, Robert W., S.S.C., 44 Heriot Row, Edinburgh  
 1872 Willacy, Robert, Penwortham Priory, Preston  
 1877 Williams, John, Phoenix Works, Rhuddlan, Rhyl  
 1878 Williams, Robert, The Green, Wishaw  
 1867 Williams, W., Principal of the New Veterinary College, Edinburgh—*Professor of Veterinary Surgery to the Society*  
 1878 Williamson, Miss Katharine Isabella, of Cardrona, Peebles  
 1879 Williamson, Alex., Sypland, Kirkcudbright  
 1858 Williamson, Andrew F., Standingstones, Dyce, Aberdeen  
 1870 Williamson, Benjamin, Canal Iron Works, Kendal  
 1861 Williamson, David Robertson, of Lawers, Crieff  
 1871 Williamson, Douglas G., Bombie, Kirkcudbright  
 1850 Williamson, George, Shempston, Elgin  
 1878 Williamson, James, Upper Senwick, Kirkcudbright  
 1878 Williamson, Jas., Greenhead, Wishaw  
 1829 Williamson, John W., Kinross  
 1871 Williamson, Thos., Merchant, Kirkcudbright  
 1854 Willis, Thomas, Manor House, Carperby, Bedale  
 1868 Willison, Duncan Campbell, Dalpeddar, Sanquhar  
 1873 Willison, Geo., Parish Holm, Douglas  
 1857 Willison, Jas. P., of Culzeun, Maxwellton, Maybole  
 1858 Willison, John, Parish Holm, Douglas  
 1868 Willison, J., jun., Glespinside, Douglas  
 1861 Wilson, Adam, Midshiels, Hawick  
 1842 Wilson, Alex., Inchgower, Buckie  
 1854 Wilson, Alex., Kirkhill, Oldmeldrum  
 1857 Wilson, Alex., Crosshill, Campbeltown  
 1864 Wilson, Alex., Alford House, Dunblane  
 1864 Wilson, Alexander, of Skeoch, Bannockburn  
 1864 Wilson, Edward L., Manufacturer, Bannockburn  
 1859 Wilson, George, Harelaw, Chirnside  
 1868 Wilson, George, Manufacturer, Hawick  
 1872 Wilson, George, Greenhill, Selkirk  
 1876 Wilson, George, Whiteside, Alford, Aberdeen  
 1859 Wilson, J., Woodhorn Manor, Morpeth—*Free Life Member 1873*  
 1871 Wilson, James, Boghall, Bishopston

## Admitted

- 1844 Wilson, James, Glasgow  
 1848 Wilson, Jas., Wester Cowden, Dalkeith  
 1854 Wilson, James, Burnetland, Biggar  
 1857 Wilson, Jas., Old Mill, New Cumnock  
 1858 Wilson, James, Banker, Kilmarnock  
 1857 Wilson, James, jun., Saddell Street, Campbeltown  
 1860 Wilson, James, Bemersyde West, St Boswells  
 1866 Wilson, Jas., 146 George Street, Edinburgh  
 1877 Wilson, James, Mains of Scotstoun, Bridge of Don, Aberdeen  
 1870 Wilson, Jas. R., Banker, Sanquhar  
 1841 Wilson, John, of Cumledge, Dunse  
 1851 Wilson, John, Wellnage, Dunse  
 1855 Wilson, John, Professor of Agriculture, University of Edinburgh  
 1865 Wilson, John, Castle Park, Huntly  
 1875 Wilson, John, Lecropt, Bridge of Allan  
 1876 Wilson, John, of Finnich Malise, Drymen  
 1857 Wilson, John, Overhouse, Strathaven  
 1859 Wilson, John, of Auchineck, Killearn  
 1878 Wilson, John, of Alderston, Mid-Calder  
 1878 Wilson, John, West Freuch, Stranraer  
 1879 Wilson, John J., Clydesdale Bank, Penicuik  
 1859 Wilson, J. F., Darnhall Mains, Eddlestone  
 1862 Wilson, J., Chapelhill, Cockburnspath  
 1863 Wilson, J. P., of Polquhairn, Sheriff of Ross, Cromarty, and Sutherland, 6 Dundas Street, Edinburgh  
 1865 Wilson, Peter, Linsaig, Tigh-na-bruaich  
 1870 Wilson, Peter, Noblehall, Lamancha  
 1878 Wilson, Peter M'C., Nether Gribton, Dumfries  
 1857 Wilson, Philip, Corn Factor, Dunse  
 1858 Wilson, Richard, C.A., 28 Great King Street, Edinburgh  
 1852 Wilson, Robert, Leithen Hall, Wamphray, Moffat  
 1870 Wilson, R., Linseed Crusher, Dundee  
 1868 Wilson, Robert, Forehouse, Kilbarchan  
 1857 Wilson, Thomas, late Auchincorrie, Campbeltown  
 1878 Wilson, Thomas Mackay, Solicitor, Kirriemuir  
 1877 Wilson, William, of Banknock, Denny  
 1849 Wilson, William, W.S., 16 St Andrew Square, Edinburgh  
 1878 Wilson, William (Picksley, Sims, and Co.), Leigh, Lancashire  
 1858 Wilson, William, Dyson House, Waltham Cross, Herts  
 1879 Wilson, William, Water Meetings, Abington

## Admitted

- 1871 Wilson, William, Wolfstar, Tranent  
 1878 Wilson, William, Nether Farding, Kirkconnel, Sanquhar  
 1871 Wilson, C. H. H., of Dalnair, Endrick Bank, Drymen  
 1873 Wilson, Thomas, Solicitor, Aberdeen  
 1877 Wingate, Andrew, Castlehill, Wishaw  
 1867 Wingate, Wm., Nether Croy, Kilsyth  
 1877 Wishart, D. F., Catherine Street Court, Edinburgh  
 1855 Wishart, Edward, 8 Laverockbank Terrace, Leith  
 1868 Wishart, W., Cairntradlyn, Blackburn, Aberdeen  
 1878 Wither, James, Awkirk, Stranraer  
 1860 Woddrop, William Allan, of Dalmar-nock, Dolphington  
 1874 Wood, Christopher, Kintrochat House, Brechin  
 1873 Wood, Collingwood Lindsay, Freeland, Bridge of Earn  
 1858 Wood, J., Midtown, King Edward, Banff  
 1864 Wood, J., Whiteside, Greenlaw, Dunse  
 1875 Wood, James, Biddrie, Parkhead  
 1873 Wood, Walter A., 36 Worship Street, London, E.C.  
 1877 Wood, Major William, Factor, Falkland  
 1876 Wordsworth, R. W., West Dean, Chichester  
 1858 Wotherspoon, Arch. (late Spotsmains, Kelso), Cust, Canterbury, New Zealand  
 1877 Wragg, Charles, Grain Merchant, 4 Stockwell Street, Glasgow  
 1857 Wright, Bryce, Dowhill, Girvan  
 1850 Wright, David, Colinswell House, Burntisland  
 1876 Wright, Frank, 61 Caznean Street, Liverpool  
 1889 Wright, James, Glasgow  
 1853 Wright, Jas., 2 Lennox Street, Edinburgh  
 1878 Wright, James, Kirkend, Lochmaben  
 1878 Wright, John, Bengall, Lockerbie  
 1877 Wright, Thomas, Bengall, Lockerbie  
 1878 Wyatt, John W. F., Aithernie, Leven  
 1878 Wyatt, Sidney, Nydie Mains, St Andrews  
 1870 Wyllie, Alex., Bolton, Haddington  
 1875 Wyllie, Alex., W.S., 21 Castle Street, Edinburgh  
 1870 Wyllie, And., Sydenham House, Bridge of Allan  
 1863 Wyllie, James, Inveraray  
 1874 Wyllie, James, Innerwick, Dunbar  
 1849 Wyllie, J., late Newfarm, Mid-Calder  
 1855 Wyllie, W. A., 14 West End Park Street, Glasgow

Admitted

- 1874 Wyllie, William, Perth  
 1878 Wyllie, William, Pleasance of Cargen, Dumfries  
 1868 Yeats, Alexander, Advocate, 89 Union Street, Aberdeen  
 1888 Yeats, William, of Aquharney, 1 Union Place, Aberdeen  
 1864 Yool, Thomas, Coulart Bank, Lossiemouth  
 1864 Yorston, Captain M. C., of Tinwald, Irvine House, Langholm  
 1852 Young, Alexander, Keir Mains, Dunblane  
 1867 Young, Andrew, 21 Park Crescent, Stirling  
 1859 Young, Andrew, Lochtyside, Thorton, Kirkcaldy  
 1854 Young, Hon. Lord, 28 Moray Place, Edinburgh  
 1877 Young, D. S., Niddry, Winchburgh  
 1873 Young, George, Auctioneer, Dollar  
 1842 Young, Harry, of Cleish Castle, Kinross  
 1876 Young, Hugh, Killoch, Neilston  
 1856 Young, James, Broadholm, Duntocher  
 1860 Young, J. A., Orchardtown, Garliestown  
 1863 Young, James, of Kelly, Wemyss Bay  
 1876 Young, James, yr. of Kelly, Wemyss Bay  
 1871 Young, James, Waterton, Elgin  
 1875 Young, James, Cadboll, Fearn  
 1868 Young, John, jun. (J. & T. Young), Ayr  
 1857 Young, John, Fulwood, Paisley

Admitted

- 1876 Young, John, Hailes Cottage, Slateford  
 1857 Young, John, Netherwood Bank House, Dumfries  
 1863 Young, Matthew, Oilcake Mills, Berwick-on-Tweed  
 1869 Young, Robert, Greenlees, Cambuslang  
 1879 Young, Robert W. (of Colinswell, Fifeshire), Mouswald Place, Dumfries  
 1870 Young, Major Thos., Lincluden House, Dumfries  
 1872 Young, Thos., Oatridge, Linlithgow  
 1876 Young, William Stirling, Keir Mains, Dunblane  
 1873 Young, William, Taylorton, Stirling  
 1878 Young, William, Shields, Monkton, Ayr  
 1873 Young, Wm., Waterbank, Carmunnock  
 1879 Younger, George, Brewer, Alloa  
 1870 Younger, Henry J., Abbey Brewery, Edinburgh  
 1875 Younger, J. B. B. C., Bankhead, Leven, Fife  
 1863 Younger, Robert, St Anns, Edinburgh  
 1863 Younger, Wm., Haggerston Castle, Beal  
 1870 Yuill, Archibald, Netherside, Strathaven  
 1838 Yuille, And. B., of Darleith, Cardross  
 1869 Yule, Edward, Balgone, North Berwick  
 1852 Yule, T. B., 36 Constitution St., Leith  
 1868 Yull, John S., Little Ardo, Methlic  
 1877 ZETLAND, Right Hon. the Earl of, Aske, Richmond, Yorkshire

TOTAL NUMBER OF MEMBERS, 4840.

HONORARY MEMBERS.

HONORARY ASSOCIATES.

- |  |  |
|--|--|
| 1874 Dahl, Ferdinand August, Aas, Christiana | 1874 Holst, Christian, Norwegian Court Paymaster |
|--|--|

## DIPLOMA FREE LIFE MEMBERS.

By a Bye-Law passed in 1873, with reference to the Supplementary Charter of 1856, successful Candidates for the Society's Agricultural Diploma are thereby eligible to be elected free Life Members of the Society. The following have since been elected :—

Admitted	Admitted
1876 Anderson, R. Lang, Milliken Park, Renfrewshire	1875 Kennedy, William, [M.A.C., 89 Marine Parade, Brighton
1873 Ashdown, A. H., M.A.C., Uppington, Salop	1878 Mc'Connell, Primrose, Castle Mains, New Cumnock
1875 Beck, Thos. Coker, M.A.C., Foleshill, Coventry	1878 Mc'Cracken, William, Blackhall, Kirkwhelpington, Newcastle-on-Tyne
1878 Bramwell, John, Marionburgh, Ballindalloch	1876 Maconchy, John Arthur, M.A.C., Corrinagh, Torquay
1873 Brown, William, Factor, Earlsmill, Forres	1873 Milne, John, Mains of Laithers, Turriff
1873 Browne, Colville, M.A.C., Park House, Long Melford, Suffolk	1873 Munby, Edward Charles, M.A.C., Myton Grange, Helperby, Yorkshire
1873 Brydon, Robert, The Dene, Seaham Harbour	1875 Murdoch, George Burn, M.A.C., 4 Brunsfield Terrace, Edinburgh
1874 Burn, Forbes, Hardacres, Coldstream	1875 Murray, Robert W. E., Wester House Byres, Galashiels
1873 Campbell, George, Kilkea, Mageney, Co. Kildare	1878 Nonnen, John Edward, 11 Merchiston Park, Edinburgh
1878 Carr, Robert, Felkington, Norham, Berwick-on-Tweed	1873 Norman, Wm., M.A.C., Hall Bank, Aspatia
1873 Eley, Wm. Henry, Etchingham Rectory, Hawkhurst, Kent	1877 Pudney, R. L., M.A.C., Earl's Cone, Halstead, Essex
1873 Elliot, Thomas John, M.A.C., Bridge House, Southwick, Fareham, Hants	1873 Rome, Thomas, M.A.C., Northampton Downs, Barcoo River, Queensland
1874 Erskine, Henry, Dalladies, Brechin	1878 Sharp, John Johnstone, Leaston, Upper Keith
1876 Ferguson, Archd. A., Gosfield, Essex	1873 Smith, William B., M.A.C., Stoneleigh Villa, Leamington
1873 Gerrard, John, Veterinary Infirmary, Market Deeping	1876 Sutherland, Alex., Rampyards, Watton, Golspie
1873 Giglioli, Italo, M.A.C., Florence	1873 Torry, Adam Ogilvie, Burnside, Forfar
1873 Goddard, H. R., M.A.C., Belsay, Newcastle-on-Tyne	1873 Wall, G. Y., M.A.C., Durham
1878 Henderson, John, East Elrington, Haydon Bridge	1878 Wallace, Robert, Auchinbrack, Tynron, Thornhill
1874 Henderson, Richard, The Grange, Kirkcudbright	1873 Walton, George Kent, Long Campton, Shipston-on-Stour, Warwickshire
1873 Hill, Arthur James, M.A.C., Accountant, Moorgate Street, London	1873 Wilson, Jacob, M.A.C., Woodhorn Manor, Morpeth
1873 Jukes, R. F., M.A.C., Cotwall, Wellington, Salop	

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